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Margaret Cameron,
4 Connor Street,
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Editorial

The Geelong Field Naturalists Club has had another successful year, and the details are set out in our President's report. Under her leadership we have had a varied program of activities, with plenty to enjoy and lots to learn. The Club is greatly involved in conservation issues, and as the people who have the opportunity to know most about our area, we have a responsibility to put well-informed views. It is also essential that, along with scientists and other interested amateurs like ourselves, we take part in projects and other work to fill the gaps in knowledge so that conservation can be based on sound information. Charles Meredith's report of the very insecure situation of the Ground Parrot in our area, where its habitat at Blanket Bay and Carlisle Heath has been destroyed or severely damaged by an inappropriate fire regime, illustrates also the importance of the contribution of amateurs – and shows that it is just as important to record the absence of expected birds as it is to report the occasional exciting vagrant. The publication of *The Atlas of Australian Birds* later this year will at least give us an up-to-date summary of the distribution of birds, against which changes can be measured. Cliff Beauglehole's work similarly helps with plants in Victoria. There are many opportunities for us to contribute new knowledge and to monitor change.

Margaret Cameron.

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Recent Records of the Ground Parrot *Pezoporus wallicus* in Western Victoria

In pre-European times, the Ground Parrot was probably fairly common in many heathlands and swampy sedgelands along Victoria's western coast, but clearing and swamp drainage after settlement drastically reduced the area of habitat available to the bird. By the beginning of this century only a few populations remained. Up until the 1950's and 60's Ground Parrots were regularly though uncommonly reported from two regions in western Victoria – the Carlisle heathlands, south of Gellibrand (Hodges, 1961; Wheeler, 1964), and near the mouth of the Glenelg River (Learmonth, 1950). A third area, the Blanket Bay heathlands near the mouth of the Parker River, supported at least six Ground Parrots up till 1975 (E. Johnson, retired forestry overseer, Apollo Bay; *pers. comm.*). In recent years there have been no published records from any of these and it was feared that the bird may have become locally extinct (Pescott, 1983). This note summarises the results of two recent searches for the Ground Parrot in these localities.

The first survey was conducted in 1980 by the Fisheries and Wildlife Division (Meredith and Isles, 1980). This survey failed to locate any Ground Parrots in either the Blanket Bay or the Carlisle heathlands, but did find a population at Long Swamp, about two kilometres east of the Glenelg River mouth. This small, isolated population is now the most westerly occurence of the eastern Australian sub-species *P. wallicus wallicus*, which previously was found as far west as Adelaide.

The second survey was conducted in November 1983 by myself and a group of volunteers from the Bird Observers Club and the Forests Commission, as part of a Victoria-wide project on the conservation and management of this bird being funded by the Fisheries and Wildlife Division and the World Wildlife Fund (Australia). The bird was surveyed by "beating" patches of heath and by listening for its distinctive ascending call given just after dusk. This time we were successful in locating Ground Parrots at two localities in the Carlisle heathlands: one bird at Mt. McKenzie, near the locality described by Hodges (1961), and two birds along Colac Tree Road. The bird has also been seen in the Mt. McKenzie area several years ago by J. Alderson (*pers.comm.*). No Ground Parrots could be found in the Blanket Bay heathlands and the bird must now be considered locally extinct there.

A study of the ecology of the Ground Parrot (Meredith and Isles, 1980) showed that in heathlands (though not in sedgelands such as Long Swamp), the survival of the bird is dependent on the maintenance of a suitable fire regime. If a heath is too long without fire (around 20 years or so) it becomes unsuitable for the bird. It takes two to three years after a fire before a heathland is again able to support the Ground Parrot, but after this time the birds usually rapidly recolonise from surrounding unburnt areas. However, a history of continuous frequent burning (fires less than six to eight years apart) will cause a heath to become unsuitable for the bird.

The disappearance of the Ground Parrot from the Blanket Bay heathlands since 1975 is most likely related to the old age of these heaths, which have not been burnt for many years. The situation in the Carlisle heaths is more complex but it appears that Ground Parrot numbers may have been reduced to very low levels by a period of extensive fuel-reduction burning in 1977-79, and that the bird is only slowly recovering from this as the heaths reach a suitable age. Some of these heathlands have also been burnt very frequently in the past and are now no longer suitable for the bird. As a result of this survey, the Forests Commission plans to modify its burning practices in the region in order to accommodate the ecological requirements of the Ground Parrot where possible.

Should any one have any further records of the Ground Parrot, past or present, from Western Victoria, I would very much like to hear from you.

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Charles Meredith, Australian Biological Research Group, P.O. Box 238,
Malvern, Victoria, 3144.

G.F.N.C. Otway Regeneration Survey
Botany Group Report

On 4 June 1983, approximately 3½ months after the Ash Wednesday fire, survey work on plant regeneration began along Old Coach Road at Moggs Creek. Members marked out two quadrats each 10 x 2 metres. Plot 1, on the west side of the road, 8km from Great Ocean Road, was set out among Messmate regrowth between the road and the water course. Plot 2, about half a kilometre further from the beach, was set out on the east side 100m. from the road on higher open heathland.

Vegetation found

Plot 1.

A. Trees. Two small Messmate regrowths 15cm high from butts.

B. Shrubs. Mainly seedlings of Spreading Wattle and regrowth of Silky and Prickly Tea-tree and Grasstree. Common Appleberry was also plentiful, but whether seedlings or regrowth was not confirmed. Smaller numbers of Silver Banksia, Horny Conebush, Common Flat-pea and Erect Guinea-flower.

C. Herbs. Regrowth of Sword-sedge, Broom Spurge, Common Raspwort, Screw Fern and Tassel Rope-rush, with numerous seedlings of Slender Platysace. Austral Bracken was reappearing, also Tetratheca, Wattle Mat-rush, Xanthosia, Sundews and Orchid species *(Thelymitra* and *Pterostylis).* Milkmaids and Blue Stars also appeared at later visits and both flowered in spring.

Plot 2.

A. Trees. Nil.

B. Shrubs. Common Flat-pea most numerous (approx. 100) with Silky Tea-tree (about 70) next. Less common were Sweet Wattle, Dwarf Sheoak, Silver Banksia, Erect Guinea-flower and Common Rice-flower. Apart from the Flat-pea seedlings, most appeared to be regrowth from butts burnt to ground level or below.

C. Herbs. Most numerous were Screw Fern, Tassel Rope-rush, and Common Raspwort. Less numerous were Sword-sedges, Blue Stars and Trailing Goodenia. Grasses later identified were Grey-beard Grass and Spear Grass. Appearing during spring were several orchids: Rabbit-ears, Mosquito Orchid, Bluebeard Caladenia, Banded Greenhood and an Onion Orchid. Twining Fringe-lily, Tall Sundew, Blue-spike Milkwort, Milkmaids and Wattle Mat-rush also flowered.

Further visits were made in February/March 1984 to assess the position twelve months after the fire.

Plot 1.

Approximately 60% of the ground was covered by vegetation. This cover was mainly of Prickly Tea-tree to one metre in height. Lesser cover was provided by Sword-sedge, Silky Tea-tree, Grasstree, Bracken, Silver Banksia, Rope-rush, Broom Spurge and Slender Platysace. Of 15 Grasstrees listed in June 1983, 10 were still alive. Seven of these had flowered, set and dropped seed. Flower-spikes were one to two metres tall. The two Messmate regrowths had reached half a metre. Several stems of these had died, though what remained looked healthy. Some lerp scale was present on these and surrounding Messmates.

No grasses appeared in the plot, though several species were growing in the sand at the edge of the road within a few metres. Slender Dodder-laurel was reappearing as a parasite on Sword-sedge, but still with its roots in the ground.

Plot 2.

As this was a drier position, vegetation was less dense than in Plot 1, ground cover being about half as dense on the north-facing slopes as on the flat plot by the creek. As the dominant plant types on Plot 2 were less vigorous than those on Plot 1 (Common Flat-pea and Silky Tea-tree against Prickly Tea-tree and Grass-tree), the percentage ground cover on the moister plot will continue to increase faster than that on the open heathland. Partly because of this, the number of individual plants and probably the species count too, is likely to be greater under the more open conditions of Plot 2.

An interesting addition found during March was Rough Comb-fern *Schizaea asperula*. Clumps of this are fairly common on the surrounding hillside. Screw Fern, very prolific when the plots were pegged out last June, died down during the summer, and in March was just beginning regrowth after good rains.

E.G. Errey, 3 Leonard St., Belmont 3216.

An Orchid Weekend at Upper Buchan in the High Country

Stan Finck

Pauline Lewis, my wife Norma, and I left Geelong at 9 a.m. on the 6 January, and travelled via Bairnsdale, Bruthen, and Buchan to Wulgulmerang. 11.5 km. further on we turned up the Benambra road, and after travelling 9 km. we met up with members of the Bairnsdale Field Naturalists Club who had arrived earlier and made camp near the Upper Buchan River. Next morning John Eichler and Jeff Jeans arrived from Melbourne, and we went to the Wombargo Plains, very ably led by James Turner, a member of the Bairnsdale Club. Our first stop was at Rogers stockyards, where we went bush and saw a few orchids, including *Pterostylis dubia* the Blue–tongue Greenhood. We had lunch and then went on to Rocky Creek where we found other orchids. One of these was *Thelymitra cyanea* the Rare Veined Sun Orchid. These two orchids are Tasmanian species, and are very rare in Victoria. Then on we went, to look for *Prasophyllum rogersii* the Marsh Leek-orchid, but we had no luck as it got too late, and we travelled the 23 km. back to camp.

Thelymitra cyanea – Rare Veined Sun-orchid.

Next morning, Sunday 8th, we left that camp, and had a look near Mt. Hamilton for 4 species which I knew grew there, but it was too early for flowers: they flower in March. We went down McKillop's Bridge road, and had lunch at the Little River Bridge. Then we went down to look for the Yellow Hyacinth Orchid, which is very rare in Victoria. We found 18 plants flowering beautifully. After all the photos had been taken, we went back to Little River. Here we parted, as some had to go back to Melbourne and others to Bairnsdale. We stayed the night in the bush on our own. I was very tired so when we finished our tea, off with my boots and I lay down in our camper. Norma and Pauline went for a walk, but after a little while Norma came back, saying "Come down here, we've found some Spider-orchids!" To my delight they had found the Summer Spider-orchid *Caladenia pallida*. We were up at 6 a.m. for a few photos, then turned for home, arriving at 6.30 p.m., very tired after a very enjoyable weekend.

Pterostylis dubia – Blue-tongue Greenhood

List of Orchids found

Thelymitra ixiodes	Dotted Sun-orchid
Thelymitra longifolia (aristata)	Scented Sun-orchid
Thelymitra venosa	Veined Sun-orchid
Thelymitra cyanea	Rare Veined Sun-orchid
Diuris pedunculata	Golden Moths
Microtis unifolia	Common Onion-orchid
Microtis parviflora	Slender Onion-orchid
Microtis oblonga	Sweet Onion-orchid
Prasophyllum odoratum	Sweet Leek-orchid
Prasophyllum alpinum	Alpine Leek-orchid
Prasophyllum beaugleholei	Midge-orchid
Prasophyllum archeri	Variable Midge-orchid
Chiloglottis gunnii	Common Bird-orchid
Caladenia reticulata	Veined Spider-orchid
Caladenia pallida	Summer Spider-orchid
Caladenia lyallii	Mountain Caladenia
Pterostylis falcata	Sickle Greenhood
Pterostylis dubia	Blue-tongue Greenhood
Pterostylis decurva	Summer Greenhood
Pterostylis aestiva	
Pterostylis alpina	Alpine Greenhood
Pterostylis obtusa	Blunt-tongue Greenhood
Pterostylis cycnocephala	Swan Greenhood
Pterostylis rufa var. *rufa*	Rusty-hood
Gastrodia sesamoides	Cinnamon Bells
Spiranthes sinensis	Austral Ladies' Tresses
Dipodium punctatum	Hyacinth Orchid
Dipodium punctatum var. *album*	White Hyacinth Orchid
Dipodium hamiltonianum	Yellow Hyacinth Orchid
Arthrochilus huntiana	Elbow Orchid

Stan Finck, 18 Lucas St., Newcomb

The Family of *Schizaeaceae* or Comb-fern

Frances Poole

Schizaea or Comb-fern is a small family in Australia, with seven species. In Victoria we have three: *asperula, fistulosa,* and *bifida.* The pinnae are in two rows on the end of each fertile stem, and look rather like a small comb. The barren fronds are much shorter.

After the Ash Wednesday fire in 1983, we searched for the Comb-ferns in all localities known to us, but without success, until in the New Year we looked further afield, and there they were. We counted thirty clumps and then gave up; they had regenerated after all.

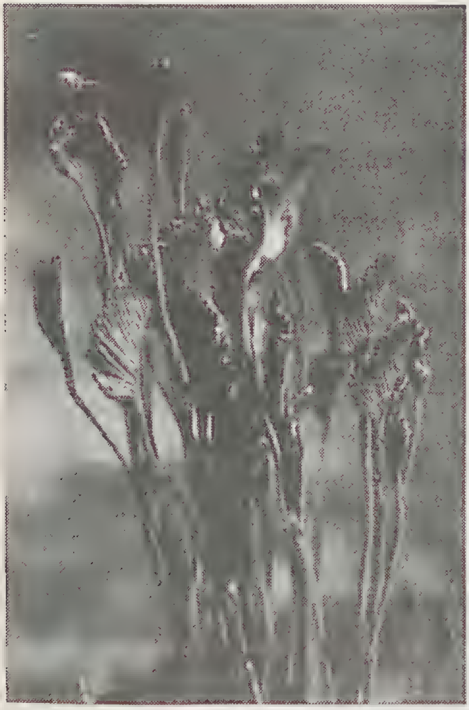
In the Anglesea area, we have found the most common of these ferns is *Schizaea asperula* Rough Comb-fern. The fronds are up to 25 cm high, with the combs on the end usually 8 mm long and 4 mm broad. The barren fronds, much branched and fan-shaped, come half-way up to the fertile fronds. *Asperula* is easily identified by running one's fingers down the stems to feel the roughness of the forward-pointing prickles.

We had been searching for *Schizaea fistulosa* Narrow Comb-fern for a long time, but last February we were lucky enough to come upon it at the back of Anglesea. There were a number of clumps with the sori (spore-cases) in various stages of ripeness. This is a more slender fern with the combs in a more upright position than in the other two species, and with a single stem, not branched at all. Very few barren fronds were present on the clumps we found. (The illustration shows two stems twisted together.)

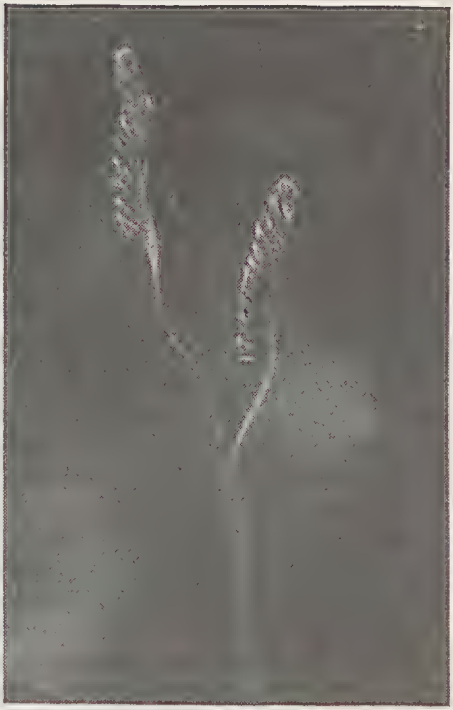
Schizaea bifida Forked Comb-fern has fronds up to 30 cm high, stems a little flattened, and quite smooth combs up to 2 cm long and 6 mm broad. This species grows in sandy or slightly peaty soil in near coastal heathlands.

Comb-ferns can be easily passed by in the field, but once recognized, they are very interesting members of the fern family.

Frances Poole, 134 Fitzroy Street, East Geelong 3219.



Rough Comb-fern



Narrow Comb-fern

Pedestrian Raven

Bob Sherwood

On our journey to Geelong for the daily grind one morning, my wife and I were detained at the traffic lights at Kilgour Street, and were amused to observe a pedestrian on the crossing, none other than a raven gravely negotiating the street with a nine-inch stick in its beak, apparently nesting material. The bird halted on the central island as we were blocking the route on which it was headed, and when the light changed and we proceeded we could see in the rear-view mirror that the "pedestrian" continued across the street, the traffic being light.

Bob Sherwood, 270 Roslyn Road, Highton 3216.

Editor's note: This raven obviously has more traffic sense than the Black Duck that Stan Rowe saw, taking her 8 or 9 ducklings across busy Roslyn Road – where there are no traffic lights – and into the Roslyn Road Bowling Club!

Some Observations from an Evening in the Brisbane Ranges National Park

Ted Conole

On Saturday, 11 February, 1984, I accompanied my son Lawrie and his friend Grant Baverstock on a bat trapping night in the Brisbane Ranges National Park. Whilst we enjoyed a barbecue tea in the Stony Creek Picnic Area, we watched a pair of Crimson Rosellas feeding young in a tree hollow near the table. Also, two Noisy Friarbirds were seen in the picnic area (Conole & Baverstock, *Geelong Naturalist* 20: 118 February 1984.)

After tea, we travelled up out of Anakie Gorge on Switch Road and then almost to Staughton Vale on McLeans Highway, to a fire-dam, where it was intended to catch bats. While Lawrie and Grant set up the triplines to catch bats, I observed a Brown Goshawk which had just captured an Eastern Spinebill. The Goshawk landed on a dead horizontal branch about 30-40 m. from the car, and after subduing its catch, proceeded to pluck and eat it. We identified the prey from remains under the perch after the Goshawk left.

At dusk, we sat down near the dam to await drinking bats. Apart from a few Common Bronzewings, we also saw a White-throated Nightjar circle over the dam and fly off up the road. Once it was dark, the bats began drinking and we caught four Gould's Wattled Bats, one King River Bat, two Little Forest Bats and one Lesser Long-eared Bat. The White-striped Mastiff-bat was constantly foraging overhead but did not drink there.

Protected bats were handled under the provisions of scientific permits issued by the Fisheries & Wildlife Division and National Parks Service.

E.J. (Ted) Conole, 85 Clarence Street, West Geelong, 3218

Survey of Animal Species Killed by the Ash Wednesday Fires along the Great Ocean Road

Andrew Wegener

Introduction

Ash Wednesday 1983 will be a day in the history of our country that we will all remember because of the horrific scenes of destruction of human life and property; as well as thousands of hectares of our natural bushland turned into a charred wasteland. The enormous loss of wildlife is a disturbing thought, not only because of the great loss of our larger vertebrate animals but also the loss of smaller creatures,the invertebrates that had no possible means of escape.

After the fires I conducted a coastal survey along the Great Ocean Road in Western Victoria in order to find out what species of animals were directly or indirectly killed by the fire. The areas the survey covered were all accessible beaches from Lorne to Torquay, approximately 49 km. of the coastline. The survey was conducted with the help of eight personal friends and members of my family.

There were a few problems in trying to accurately record the number of fire-related deaths. For example, thick layers (up to 10 cm. thick) of ash and drifting sand completely or partially covered many animals on some beaches, as well as tidal changes washing specimens onto beaches and then out again.

However, even with these problems the survey showed what a large cross section of our animals were fatally affected by the fires.

Only those species of animals whose remains could be positively identified are included in the results of the survey; Isolated plumage or partial skeletal remains are not included in the list of species.

Summary Of Results (A total list is at the end of this article)

Birds: Fifty-five species were recorded and hundreds of specimens were found dead on beaches. The most numerous species found were:-

Crimson Rosella *Platycercas elegans*
New Holland Honeyeater *Phylidonyris novaehollandiae*
Red Wattlebird *Anthochaera carunculata*

One each of the following was found:-

Rufous Bristlebird *Dasyornis broadbenti*
White Goshawk *Accipiter novaehollandiae*
Owlet Nightjar *Aegotheles cristatus*

Mammals: Eight different species were found. However, many small species (eg. bats, marsupial mice) could have been easily overlooked due to thick layers of ash.

The most common mammals found were:-

Ring-tailed possum *Pseudocheirus peregrinus*
Dusky antechinus *Antechinus swainsonii*

Reptiles: Only one species was recorded: a juvenile copperhead snake *Austrelaps superbs* was found on a beach near Anglesea.

Discussion

It was apparent that the northerly wind blew the fire towards the coastline and the birds had tried to escape by flying out to sea; the animals had reached the shoreline with nowhere else to go.

Many animals were badly burnt but others showed no signs of burns. The probable causes of these animals' deaths may have been that they were asphyxiated by the smoke, or drowned after becoming exhausted upon reaching the sea. Some mammals may have died from internal injuries or shock after after jumping from the tall cliffs.

The majority of specimens collected on the survey have been lodged with the National Museum of Victoria's Mammalogy and Ornithology departments.

As I have Fisheries and Wildlife Department scientific collecting permits I have been able to retain some specimens for my wildlife lectures in Victoria.

The following list of the 64 species recorded takes into account only those animals which were able to make it to the coast and then were not either swept out to sea or buried beneath layers of ash and sand. It is therefore only a very small sample of the enormous numbers of wildlife which must have been destroyed by the fires.

List Of All Species Recorded

Key: Numerous – 200+ (N); Very Common – 100+ (VC);
Common – 10 to 100 (C)

Birds

This survey cannot be directly related to that reported by Trevor Pescott (*Geelong Naturalist* 20: 17-19, May 1983). Our survey areas partly overlapped.

White Ibis	*Threskiornis molucca*	1
White Goshawk (Grey Goshawk)	*Accipiter novaehollandiae*	1
Brown Goshawk	*Accipiter fasciatus*	4
Masked Lapwing	*Vanellus miles*	2
Domestic Pigeon	*Columba livia*	5
Common Bronzewing	*Phaps chalcoptera*	4
Brush Bronzewing	*Phaps elegans*	3
Yellow-tailed Black Cockatoo	*Calyptorhynchus funereus*	3

Gang-gang Cockatoo	*Callocephalon fimbriatum*	*4*
Sulphur-crested Cockatoo	*Cacatua galerita*	*VC*
King Parrot	*Alisterus scapularis*	*C*
Crimson Rosella	*Platycercus elegans*	*N*
Blue-winged Parrot	*Neophema chrycostoma*	*1*
Fan-tailed Cuckoo	*Cuculus pyrrhophanus*	*1*
Boobook Owl	*Ninox novaeseelandiae*	*VC*
Barn Owl	*Tyto alba*	*1*
Australian Owlet-nightjar	*Aegotheles cristatus*	*1*
White-throated Needletail	*Hirundapus caudacutus*	*1*
Laughing Kookaburra	*Dacelo gigas*	*C*
Sacred Kingfisher	*Halcyon sancta*	*2*
Skylark	*Alauda arvensis*	*C*
Australian (Richard's) Pipit	*Anthus novaeseelandiae*	*1*
Blackbird	*Turdus merula*	*C*
Scarlet Robin	*Petroica multicolor*	*3*
Eastern Yellow Robin	*Eopsaltria australis*	*C*
Rufous Whistler	*Pachycephala rufinventris*	*C*
Golden Whistler	*Pachycephala pectoralis*	*C*
Grey Shrike-thrush	*Colluricincla harmonica*	*VC*
Satin Flycatcher	*Myiagra cyanoleuca*	*1*
Rufous Fantail	*Rhipidura rufifrons*	*3*
Grey Fantail	*Rhipidura fuliginosa*	*4*
Brown Songlark	*Cinclorhamphus cruralis*	*3*
Superb Fairy-wren	*Malurus cyaneus*	*6*
Rufous Bristlebird	*Dasyornis broadbenti*	*1*
White-browed Scrubwren	*Sericornis frontalis*	*C*
Brown Thornbill	*Acanthiza pusilla*	*C*
Striated Thornbill	*Acanthiza lineata*	*C*
Varied (Orange-winged) Sittella	*Daphoenositta chrysoptera*	*C*
White-throated Treecreeper	*Climacteris leucophaea*	*C*
Red Wattlebird	*Anthochaera carunculata*	*VC*
Little Wattlebird	*Anthochaera chrysoptera*	*2*
Yellow-faced Honeyeater	*Lichenostomus chrysops*	*VC*
White-eared Honeyeater	*Lichenostomus leucotis*	*C*
Brown-headed Honeyeater	*Melithreptus brevirostris*	*1*
White-naped Honeyeater	*Melithreptus lunatus*	*C*
New Holland Honeyeater	*Phylidonyris novaehollandiae*	*N*
Eastern Spinebill	*Acanthorhynchus tenuirostris*	*1*
Striated Pardalote	*Pardalotus striatus*	*1*
Silvereye	*Zosterops lateralis*	*C*
House Sparrow	*Passer domesticus*	*4*
Common Starling	*Sturnus vulgaris*	*C*
Australian Magpie	*Gymnorhina tibicen*	*VC*
Pied Currawong	*Strepera graculina*	*C*
Grey Currawong	*Strepera versicolor*	*C*
Australian Raven	*Corvus coronoides*	*C*

Mammals

Eastern Grey Kangaroo	*Macropus giganteus*	4
Swamp Wallaby	*Wallabia bicolor*	C
Ring-tailed Possum	*Pseudocheirus peregrinus*	VC
Eastern Pigmy Possum	*Cercartetus nanus* (This specimen was found dead on the Great Ocean Road, Airey's Inlet)	1
Dusky Antechinus	*Antechinus swainsonii*	C
Black Rat	*Rattus rattus*	C
Broad-toothed Rat	*Mastacomys fuscus*	1
Gould's Wattled Bat	*Chalinolobus gouldii*	2

Reptiles

Copperhead	*Austrelaps superba*	1

Acknowledgements

Firstly I would like to thank my family and friends for the many kilometres of beaches which they walked during the survey.

I would also like to acknowledge the assistance given by Mr. Nicholas Day in helping to identify the majority of bird specimens. Also to Ken Simpson (State College of Victoria– Burwood), Belinda Gillies (Ornithology Dept.) and Linda Huxley and Mrs. J. Dixon (Mammalogy Dept., National Museum of Victoria), many thanks for your identifications as well.

I am also grateful to the Victorian Fisheries and Wildlife Division, especially Dr. R. Begg for allowing me to conduct such a survey, and giving me permission to retain certain specimens for use in my wildlife lectures.

Andrew Wegener, Australian Wildlife Lectures,
P.O. Box 105, The Basin, 3154.

President's Report 1983/84

It gives me great pleasure to review another successful Club year. Activities have been very full and varied; membership has grown and financially the Club is still quite sound.

Meetings

Speakers at general meetings have presented talks of a very high standard and have covered a wide range of topics: astronomy, animal behaviour, life on rocky shores, fishes, the Bendigo Whipstick, spiders, sugar gliders, bats and general natural history. We were fortunate to have experts such as Robert Wilkinson, Angus Martin, Gerry Quinn, Martin Gomon, Leon Ruedin, Wendy Clark, Graeme Suckling and Trevor Pescott. Through Members' Nights we were taken to such places as Ethiopia, Northern Australia, Great Britain, and down the Darling River.

The specimen table has remained a feature of general meetings and has included such diverse items as Red-backed spiders, lichens, weeds, leeches, freshwater crabs and bird nests, which, together with members' observations, form a valuable natural history record. Thanks to Ron Creed and Pat Russell for documenting these records.

Excursions and Campouts

Excursions have been well attended. We visited many local areas – Eastern Park and the Ocean Grove Nature Reserve, the Brisbane Ranges, and Ironbark Basin and the Anglesea coal mine, and the Werribee Sewage Farm, and went further afield to the Wombat Forest, the Stony Rises, the Melbourne Botanical Gardens and the Zoo. There were also two boat trips to Mud Island, the second being an extra one undertaken because of popular demand.

Campouts were to Mt. Langi Ghiran, Maryborough, the Little Desert, the Bendigo Whipstick, the Otways and Mt. Baw Baw. They were nearly all bush camps, the exception being Mt. Baw Baw, when we stayed at the Baw Baw Ski Club lodge. I thank all leaders and organisers of these campouts and excursions.

Working Bees

We held our two usual boneseed eradication weekends at the You Yangs, in winter and early summer. We have made excellent progress in getting rid of the weed on the little hill overlooking the Saddle, where we are well on the way to a first clearing of its eastern and southern faces. We must be careful to maintain those areas, and also to work on our original sites below the Saddle, where the boneseed is again encroaching.

Our working bee and tree planting at the Belmont Common had to be limited to clearing up litter. Just prior to the designated date South Barwon City Council had, without reference to us, created a drain which put at hazard any further tree planting. We met with representatives of the Council to discuss the matter, and it was agreed that the Council would look at modification of the drain and would undertake a survey of the wetland, and the Club would prepare a management plan.

Otways Regeneration Survey

A new and absorbing activity arose as the result of the Ash Wednesday bushfires of 1983. We are now undertaking a regeneration study of the Eastern Otways for at least five years. We have chosen two areas at Moggs Creak, one including the creek and the hillside above and one on heathland nearby. We have visited the area at least once a month, and we have noted bird activity, plant growth, reptiles, insects and evidence of mammals. Trapping to discover whether small mammals are in the area has been carried out on several occasions, and I find it pleasing that through the Study, this Club activity has been renewed.

Regular regeneration reports have been published; the May 1983 *Geelong Naturalist* was entirely devoted to the effects of fire and regeneration after fire. This ongoing project should provide much more valuable material.

Other Activities

A smaller related project has been the study, set up by Gwen Yarnold and Paul Chaplin and involving a number of members, of regeneration following a cool burn in the Ocean Grove Nature Reserve.

In October we were host Club for the Victorian Field Naturalists Clubs Association Spring Get-together at Ocean Grove. Visitors were shown the Ocean Grove Nature Reserve, Orange-bellied Parrots at Swan Island, regeneration after fire at the Ironbank Basin and behind Anglesea where they were able to see the Lizard Orchid in flower, a rare occurrence.

Groups

The Bird Study Group has met monthly, and organised regular excursions. A campout to Rotamah Island was held in September. Bird Group members also took part in two Wader Counts, the Bird Challenge Count and regular Orange-bellied Parrot surveys.

Botany Group activity was hampered initially by the drought of 1983/84; recently, however, regular meetings and excursions have been resumed. In July of last year, at the John Brown Arboretum at the You Yangs, Botany Group members planted seedling trees which they had propagated themselves from original indigenous vegetation of the Forest Park. It is hoped to continue this work and to increase the range of species.

Outside Committees

The Club has representatives on the committees of management of the Ocean Grove Nature Reserve, the You Yangs Forest Park and the Inverleigh Common. We are thus able to make some input into the management of these reserves and act as watchdogs for their conservation.

Administration

Some changes were made in the administration of the Club. The position of Secretary was split to include a Minutes Secretary, thus helping to spread the workload. A Conservation Sub-committee was set up to study various conservation issues and documents and to prepare submissions. The Committee meeting night was brought forward to the third Wednesday of the month to allow more time for items to be prepared for the Newsletter. We have endeavoured to improve the quality of the Newsletter printing following several poor issues. All Club meetings, including Group meetings, are now held at the same venue – St. David's Hall.

Change to Constitution

A small amendment was made to the Constitution to enable us to set the subscription rates for the following year at the March general meeting. This means that we can send out subscription renewal notices in advance of the Annual General Meeting and should make the collection of monies more efficient.

New Equipment

At the end of 1983 we purchased a large daylight screen and an automatic projector with slide cassette, which is more powerful than our single-slide projector. The money for these items came from funds accrued in No. 3 Account into which is paid donations for the booklet *The care of sick, injured and orphaned native birds and animals*, written by Jack Wheeler and published by the Club. A second edition was published during the year. Mr. Wheeler has administered the distribution of this work since it first appeared, and we are indeed grateful to him for this and for writing the booklet in the first place. Jack has finally decided to relinquish the task and Mr. John Bowden-Perry will take over from him.

We are now looking at the purchase of a cassette tape recorder and directional microphone, which will let us extend our field activities into the recording of bird and frog calls.

Conservation Matters

A Club such as ours finds itself more and more involved in the fight to protect areas with natural conservation value.

A meeting was called during the year to allow all members to have some input into the Club's conservation policy. The desirability of an Environment Centre in Geelong was also discussed, and it was agreed that we would like to share in such a facility but could be limited by possible financial and staffing constraints.

Many conservation issues have been dealt with by the Committee during the past year. We have appeared at objection hearings about the Sparrovale tip and the rezoning to rural residential of land at Batesford West (including the Belcher property). We have prepared submissions on the Alpine Study Area, the environment assessment process, the diversion/landscaping of the Anglesea River, roadside vegetation, Buckleys Falls and Lake Connewarre, and the State Conservation Strategy.

We have objected to a house being constructed above the cliffs at Point Addis, and to illegal planting and clearing at the Ironbark Basin, at Lorne and at Urquharts Bluff. We objected to an airstrip and an extended shooting range being built at Swan Island, which would endanger both the Orange-bellied Parrot and migratory waders. We have written to the Minister about logging in the Otways, and other letters have been sent on subjects ranging from trail bike noise, power boating on the Barwon River, geese at Balyang Sanctuary, development plans for Eastern Park, the transport of native birds and the protection of redgums at the Werribee Sewerage Farm.

We have met with Alcoa's environmental officer about plans to divert process waste water from coastal wetlands at Point Henry, and made an on-site inspection with a representative from the Ministry for Conservation, Forests and Lands of remnant vegetation near the Barwon River at Belmont.

The Club was represented at the launching of the Bellarine Peninsula Archaeological Survey and at preview open days at ANAHL and the Marine Science Laboratories.

Natural History Medallion

We were delighted when the Club's nomination for the Natural History Medallion was successful, and Mr. Trevor Pescott was given the award for 1983.

Thanks

Finally I would like to thank the many, many people who have contributed to the running of the Club. The members of the Committee have supported and helped me, in particular the main office bearers: Dave King, Craig Morley, Diana Primrose, Gordon McCarthy and Trevor Pescott. I am grateful to Harry Kroger and Betty Moore who have taken over the Treasurer's work during her six months leave of absence. Thank you to Harry, also, for so ably typing the minutes, and to other typists, such as Val Lloyd-Jones and Gwen Yarnold, who have been called upon at short notice from time to time, and to Betty King for typing the Club correspondence.

I thank all those members who donated books for the library, and Leila Ramsay for managing our collection: Joyce Hunt for sending out the magazine, Joyce Ward for mailing the Newsletter, Linda Jones for taking on the Newsletter editing even though she was very new to the Club, and Margaret Cameron for continuing to edit the *Geelong Naturalist.* The high quality of articles in our magazine has been maintained and we can be proud of our journal's excellent reputation.

Jean Hoggart has been the Club Auditor for 13 years and has always done a meticulous job. I add my thanks to that of the Acting Treasurer. Jean has seen a growth in complexity of Club finances and has made various helpful suggestions to improve our efficiency.

A great number of members have helped provide extra funds for the Club, either by direct donation or by providing items to be raffled or for sale. In particular I would like to mention Lily Sherwood, Nora Errey and Lauris Mathison for their untiring work in organizing fund raising activities. Money raised through the trading table each month, a street stall and the recipe book (which took months of background preparation) has meant the Club has been able to function above a subsistence level.

There is a great sense of sharing in the Club, not only of the workload, but of our common interest – natural history. I hope that interest and the enjoyment it brings will continue to grow in the years ahead.

Valda Dedman
President

Treasurer's Report 1983/84

It is pleasing to present the Tresurer's Report for the year to 6th March, 1984, on behalf of your Treasurer, Miss D. Primrose, who is overseas.

General Account

The General Account showed receipts exceeding payments by $1,236.90. This favourable position, plus a bank balance of $1,368.33 at the beginning of the financial year, enabled your Committee to invest a further $2,000 in Deposit Stock. This makes a total of $3,900. The bank balance at 6th March, 1984, of $605.23, is adequate for working funds and a normal level of expense.

Receipts

For the last financial year, receipts were $952.98 higher than the previous year. Although receipts from donations and the Cake Stall were down, and a Fashion Parade was not held this year, income from "fund raising" sources was substantial. The Cake Stall raised $295.75, the Trading Table $319.65, and raffles $87.40. Donations of $382.50 from the South Barwon Council recreation voucher scheme were $79.25 less than last year. Subscriptions were higher by $686.00, and this reflects the increase in subscription rates made at the annual meeting in 1983. Subscriptions for the year totalled $3,052.50. Sale of recipe books raised $1,033, and added materially to the year's income.

Payments

Payments for the year of $4,721.29 were $843.53 less than 1982/83. The difference is largely accounted for by the payment in the previous year of $850 for the 21st Birthday Dinner. Although printing was up $266.50, costs this year included $490 for the printing of the recipe books. Most other items of expense were less than those of the previous year.

As previously reported, this satisfactory financial result allowed $2,000 to be invested in Deposit Stock, the interest from which will add to future income.

Excursion Account

The Treasurer's report last year gave notice of the Committee's decision to close the Excursion Account and transfer the balance to the General Account. Early in the financial year an amount of $64.92 (being the balance of the Excursion Account plus accrued interest) was transferred to the General Account.

No. 3 Account

A separate account through which income and expenses in respect of Mr. Jack Wheeler's booklet *The Care of Sick and Injured Birds and Animals* is recorded. For the year, receipts exceeded payments by $294.39. Donations of $731.27 were higher than last year, as was interest of $449.70. Following approval at general meeting to use some of the funds in the No. 3 account for the purchase of equipment for the G.F.N.C., a slide projector and accessories, and a screen, amounting to almost $800 were purchased.

Notwithstanding these purchases, the bank balance at 6th March, 1984, was $781.59, and investment in Deposit Stock $3,800.

Auditor

Within recent weeks, Miss Jean Hoggart tendered her resignation as Club auditor. Miss Hoggart has been the G.N.F.C. auditor for 13 years filling this necessary role and undertaking a responsible position for the Club. Our grateful thanks are extended to her for her auditing work over a long period.

H.W. Kroger, Acting Treasurer, G.F.N.C.

Receipts & Payments Account for Year ended 6th March, 1984

GENERAL ACCOUNT

Receipts		Payments	
Subscriptions	3,052.50	Printing	3,162.90
Donations	464.10	Postage	354.98
Interest	353.74	Subscriptions to other Clubs	192.00
Sale of Recipe Books	1.033.00	Petty Cash	135.00
Cake Stall	295.75	Donations	85.00
Proceeds of Raffle	87.40	Rent & Donations for use of hall	218.00
Trading Table	319.65	Insurance	185.65
Sale of Publications, etc.	25.10	Books & equipment	19.60
Excursion receipts (including balance Excursion A/c)	274.92	Excursion costs Travel expenses to speakers	200.00 70.00
Sundries	52.03	Bank Charges	17.16
		Sundries	81.00
			4,721.29
		Investment Deposit Stock	2,000.00
	5,958.19		6,721.29
Cash Book Balance 3.3.83	1,368.33	Cash Book Balance 6.3.84	605.23
	$ 7,326.52		$ 7,326.52

General Account. Deposit Stock Balance 6.3.84 $3,900.00

No. 3 ACCOUNT

Receipts		Payments	
Donations	731.27	Postage	77.95
Interest	449.70	Projector & accessories	608.07
		Screen	199.50
		Bank Charges	1.06
	1,180.97		886.58
Cash Book Balance 3.3.83	487.20	Cash Book Balance 6.3.84	781.59
	$ 1,668.17		$ 1,668.17

No. 3 Account. Deposit Stock Balance 6.3.84 $3,800.00

Coolart Reserve

Report on Club Excursion 19 September 1982, and Background History of the Reserve

Diana Primrose

Background Histroy and General Features of "Coolart"

Coolart Reserve is situated on the shores of Westernport Bay, between Balnarring and Somers, on the eastern side of the Mornington Peninsula approximately 80km from Melbourne.

"Coolart" was originally taken up as a pastoral lease in the 1840's, when the first settlers began to develop 'runs' on the Mornington Peninsula. The original settlers, Alfred Meyrick and his cousin Henry, took up a vast tract of virgin land stretching from near Dromana across to Sandy Point (or "Colourt" as it was known by the Aborigines). This 6880 ha. expanse of land was the original "Coolart". The Meyricks moved to Gippsland six years later, but their memory lives on in the name of the present town of Merricks.

"Coolart" has changed hands many times over the years, the sucession of owners each adding their mark to the property. In 1875 the original Government lease was cancelled, and John Benn purchased 800 ha. of freehold land, of which present day "Coolart" is part. The original homestead (now non-existent) was possibly built in the 1850's, the second, known as "The Barracks", was built in the 1860's of bricks hand made from the clay from the lagoon. The stables and buttery were built at much the same time. All these buildings are preserved today. In 1896 the imposing main homestead was built by Frederick Grimwade, and forty years later the property was bought by Tom Luxton the last private owner of "Coolart".

During his period of occupancy of almost forty years, the late Tom Luxton re-landscaped the gardens, planted exotic trees, and raised the existing earth wall of the lagoon. The lagoon had originally been an extensive shallow paperbark swamp with a deeper section where clay had been removed to make the bricks for the early "Coolart" buildings. During the drought of the late 1930's the lagoon was enlarged to an area of 5 ha., man-made islands were formed, weeping willows and Louisiana swamp cypresses were planted. With the coming of the rains the Swamp Paperbarks *(Melaleuca ericifolia)* suckered profusely. The lagoon was given a concrete spillway which provided a fairly constant water level throughout the year.

This soon attracted the Sacred, or White, Ibis (*Threskiornis molucca*), a bird not abundant around Westernport in those years. By 1961 the first Ibis nested on Coolart Lagoon and today up to 500 pairs of these birds breed on the lagoon each year. They feed extensively on local pastures devouring a variety of cockchafer grubs, earthworms, crickets, frogs and adding to these, crustaceans from the Westerport mud flats.

In addition to the White Ibis, many other birds now frequent the Coolart Lagoon, including 7-8 species of duck, cormorants, Swamphens, Coots, Dusky Moorhens and Strawnecked Ibis. From July to December each year the lagoon is particularly busy with birds coming and going with nesting materials or food for their young. In the late afternoon the non-breeding birds which have been feeding in the pastures, return to the lagoon to roost.

As well as water birds many varieties of song birds and bush birds are seen at 'Coolart'. Fantails, wrens, robins, honeyeaters, kookaburras, rosellas, etc. are found in the extensive woodland area. Along the foreshore sea birds can be seen – perhaps an albatross or Red-capped Plovers nesting on the beach in spring.

"Coolart" was finally subdivided by the late Mr. Luxton in 1977, when that State Government bought 87 ha. of the heart of the property to preserve this valuable conservation and historic area. In1980 Mr. Graham Pizzey A.M. was appointed first warden of Coolart.

A large bird hide has been constructed beside the lagoon on the style of those at Britian's famed Minsmere Reserve. It can seat up to 25 people, and provides an ideal observation point to view and photograph the inhabitants of the lagoon, without creating any disturbance.

"Coolart" has a very active "Friends of Coolart" group, which has done much towards its success. As Graham Pizzey states, the goals of the management are to preserve and maintain the buildings and gardens of Coolart as an historical record of life in "Victorian days", and to enhance Coolart's six or seven quite different wildlife habitats – farm paddocks, lagoon, wetlands, woodlands – so that they support diverse but stable associations of plants and animals.

Report on Club Excursion

Forty-five people filled our coach to capacity on what proved to be an interesting and enjoyable day. The trip to "Coolart" took us along the bayside beaches of Melbourne on a beautiful morning. Driving through the Mornington Peninsula we were impressed by the green landscape in this drought year. In fact, on our arrival at "Coolart" we were greeted by a heavy downpour of rain which lasted long enough for most of us to make a leisurely inspection of the old homestead before proceeding outside. We left Geelong close to 8.00 a.m. and arrived at "Coolart" at about 11.00 a.m. We had 4½ hours to explore the reserve, leaving there at 3.30 p.m. and arriving in Geelong at 6.00 p.m. Small groups, and individuals, explored at random – the Minsmere bird hide on the lagoon, the old garden and homestead. The drought year (though not particularly evident in that area) had affected the number of nesting ibis, there being many less than in a normal year. In spite of this it was estimated that about 380 adults were on the lagoon that morning, and at least 100 more would have been out feeding in the fields.

Coolart Bird List

Joyce Ward

Lake Habitat/Lagoon/New Wetland

Numbers are from a count by a "Friend of Coolart" attendant, 11 a.m. to 12 noon.

Darter, 1; Pied Cormorant; Little Pied Cormorant, 4; Black Cormorant, 3; Sacred Ibis, c. 380 adults; Royal Spoonbill, 16; Black swan 2 adults, 3 cygnets; Australian Shelduck; Pacific Black Duck, Grey Teal 17, Chestnut Teal 15, Australasian Shoveler, Pink -eared Duck 3, Hardhead 43, Blue-billed Duck 1, Dusky Moorhen 3, Purple Swamphen 4, Eurasian Coot 19.

Paddocks — Woodland

Sacred Ibis, Masked Lapwing, Silver Gull, Galah, Kookaburra, Skylark, House Sparrow, Yellow-rumped Thornbill, Starling, Indian Myna, Australian Magpie-Lark, Grey Currawong, Australian Raven.

Coastal Woodland

Eastern Yellow Robin, Golden Whistler, Grey Fantail, Superb Fairy-wren, Brown Thornbill, Varied Sittella, Red Wattlebird, Little Wattlebird, Yellow-faced Honeyeater, White-plumed Honeyeater, New Holland Honeyeater, Spotted Pardalote, Silvereye.

Garden

Common Bronzewing, Pallid Cuckoo, Horsfield's Bronze-cuckoo, Shining Bronze-cuckoo, Welcome Swallow, Blackbird, Willie Wagtail.

A Welcome to "Coolart"

Graham Pizzey welcomes naturalists to 'Coolart' any Tuesday, Wednesday, Thursday and Sunday between 11.00 a.m. and 5.00 p.m. A moderate admission fee is charged. "Friends of Coolart" would also welcome members. Ring 'Coolart' on 059 821333. See Melway Reference Map No. 193; J/8.

REFERENCES:

"Welcome To Coolart" Brochure – Graham Pizzey A.M.
Herald Nature Notes 25/9/80 – Graham Pizzey A.M.

Diana Primrose, Wallington, 3221.

A Family Group of Superb Fairy-wrens *Malurus cyaneus*

Craig Morley

On 7 November 1981, during the G.F.N.C. Bird Group excursion to Anglesea, a nest of the Superb Fairy-wrens (Superb Blue-wrens) was found. The nest was in a 30 cm leptospermum sapling, at a height of 15 cm, amongst other undergrowth. The nest contained 2 or 3 nestlings which were probably only a couple of days old.

After a 15 minute period of observation it became apparent that there were three blue-plumaged males and one brown female feeding the young. Two of these blue-plumaged males were observed to break off from feeding duties and perch side by side on a bare branch *(E. viminalis)* at a height of 3 metres, about 5 metres from the nest. For a period of approximately 2 minutes the two male birds were observed mutually preening.

Craig Morley, 22 Fairmont Rd., Newtown 3220.

Hour Count No. 46

Strathbogie Ranges, Vic.

Roy Wheeler

The Strathbogie Ranges are north-east of Melbourne, to the south of Euroa and Violet Town on the highway to Albury and Sydney, and north of the districts of Yea and Mansfield. The only two towns with a store and garage are Strathbogie and Merton. I visited these ranges for the first time from 27 January until 4 February 1984, as the guest of my old friends David and Carol Noonan of "Inverell", Strathbogie.

There are many farms scattered throughout the districts with mainly crops, sheep, cattle and some orchards. David had sheep, cattle, some oat crop, and was starting an orchard. The area averages just on 2000 ft., and has snow at times and frosts from May till October. The highest peaks are Mt. Wombat 2620 feet and Mt. Strathbogie 3450 feet. The Strathbogie State Forest covers a big section and many parts are planted with pines. The first settlements were in 1846 and 1848. John Kissock named his place Strathbogie meaning "The valley amongst the hills". The Seven Creeks, the main stream in the area, joins the Goulburn River near

Shepparton. The earliest relic of the district is a tombstone inscribed "To the memory of Agnes wife of John Kissock, who departed this life January 14, 1855. Aged 60 years." The first permanent selector of the land in the Strathbogies was A.G. (Adam) Smith in 1876. He came from Whittlesea. The first school was opened in1879 at Strathbogie South, and the first teacher, Mr. C.F. Vroland, published the first bird list for the district in *The Emu* Vol. 2, in 1903. Wildlife in the district was well represented with kangaroos, wombats, wild pigs, possoms, koala, echidna, and the rabbit. I listed 100 species of birds in a week. I found a good spot for an hour count near David's place.

Strathbogie, Vic. Three miles from the township near Mr. Palmer's Farm. From the side of a lane overlooking two dams and a blue-berry farm. Trees in the lane were Black Wattle, Silver Wattle, Tea-tree, Blackwood, Round-leaf Sallee, Narrow-leafed Peppermint and one large Candlebark.

February 1, 1984. Fine sunny morning with a cool south wind. From 8.55 to 9.55 a.m.

Roy Wheeler and David Noonan. Birds in order of sighting:

Little Pied Cormorant, 1; Yellow-faced Honeyeater, 4; Magpie Lark, 6; Orange-winged Sittella, 4; Black Cormorant, 3; Little Eagle, 2; Kookaburra, 1; Mountain duck, 2; Spurwinged Plover (Masked Lapwing), 2; Sulphur-crested Cockatoo, 34; Black-backed (Australian) Magpie, 8; Crimson Rosella, 20; Black Duck, 2; Tree Martin, 2; Welcome Swallow, 26; Willie Wagtail, 10; Dusky Wood-swallow, 12; Buff-tailed Thornbill, 2; Little Raven, 8; Grey Fantail, 12; White-throated Treecreeper, 5; Striated Thornbill, 1; Brown-headed Honeyeater, 1; Yellow-rumped Thornbill, 12; Galah, 2; Black-faced Cuckoo-shrike, 3; Rufous Whistler,1; Swamp Harrier, 1; White-faced Heron, 1; Brown Thornbill, 1.

Total 30 species and 185 individuals.

My grateful thanks to David and Carol and family for their great hospitality and lending me a copy of *Strathbogie Centenary 1877-1977*.

Roy Wheeler, 59a Upton Road, Windsor, Vic. 3181.

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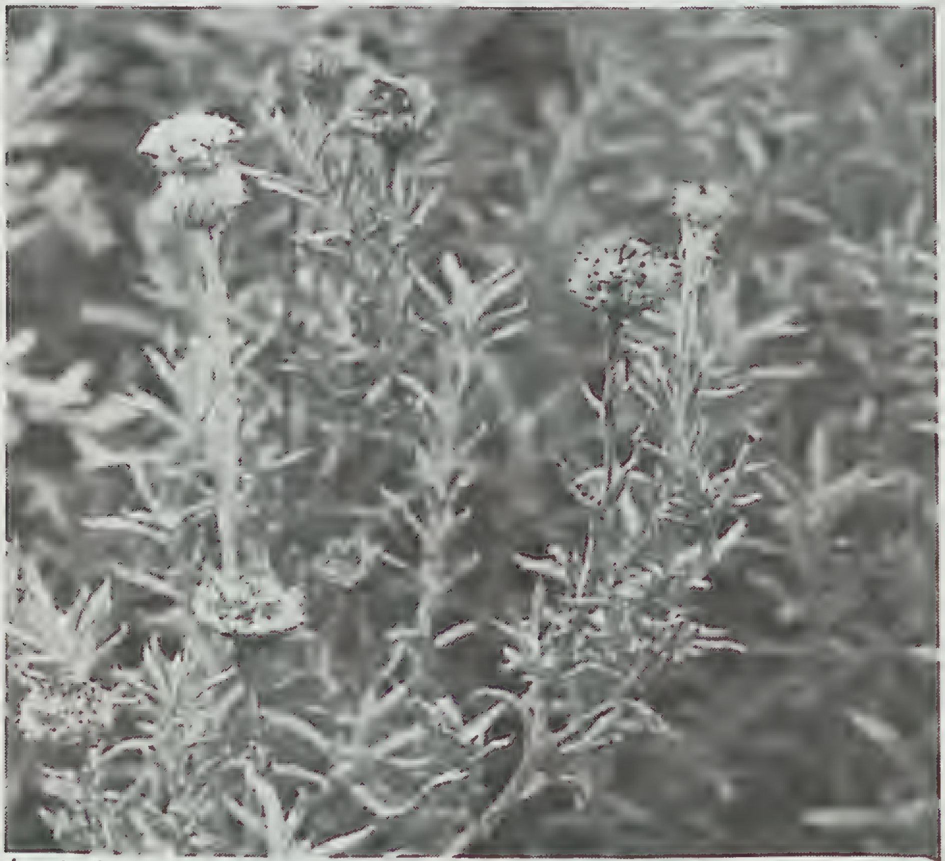
Editorial

Like last year's abundant orchids, the exciting rediscovery of a plant given up as extinct is one of the few good things about the bushfires of Ash Wednesday. This plant is apparently a post-fire pioneer, growing on ashbeds. Several small patches have been found in the burnt areas. Their protection will require careful management so that they are not destroyed by roadmaking or similar human disturbance, and the planning of a suitable fire regime. The plants may die out again after a few years, but this recurrence has shown that they can reappear after more than sixty years. It is up to us to see that their environment is managed so that they can perform this miracle.

Margaret Cameron



Leptorhynchos gatesii Photograph by Trevor Pescott

NATIONAL
28 AUG 1984
OF VICTORIA

A Plant Thought to be Extinct is Found in a Healthy State: Rediscovery of *Leptorhynchos Gatesii*

Mary D. White

On 15 June 1984 some of us set out to walk the tracks behind Eastern View. After climbing uphill for some time I suddenly noticed a small plant with yellow flowers in the centre of the old track. It appeared to be a *Leptorhynchos*, but not a species I had seen in the area. In the recent book *Extinct and Endangered Plants of Australia* I had read of *L. gatesii* once found near Lorne and now thought to be extinct. First recorded in 1921, described in 1922, *L. gatesii* or Wrinkled Buttons is a plant about 20 cm. in height with wrinkled involucral bracts with bronzy ciliate tips. The wavy leaves are bright green above and cottony white on the underside. After checking local species again, I sent specimens to the Melbourne Herbarium and to La Trobe University, which is working on rare and endangered species. The plant was identified as *Leptorhynchos gatesii* and La Trobe sent a botanist, Mr. Steve Platt, to visit the area with us to study the plant, ascertain the extent of its occurence, and recommend any action necessary to save the species.

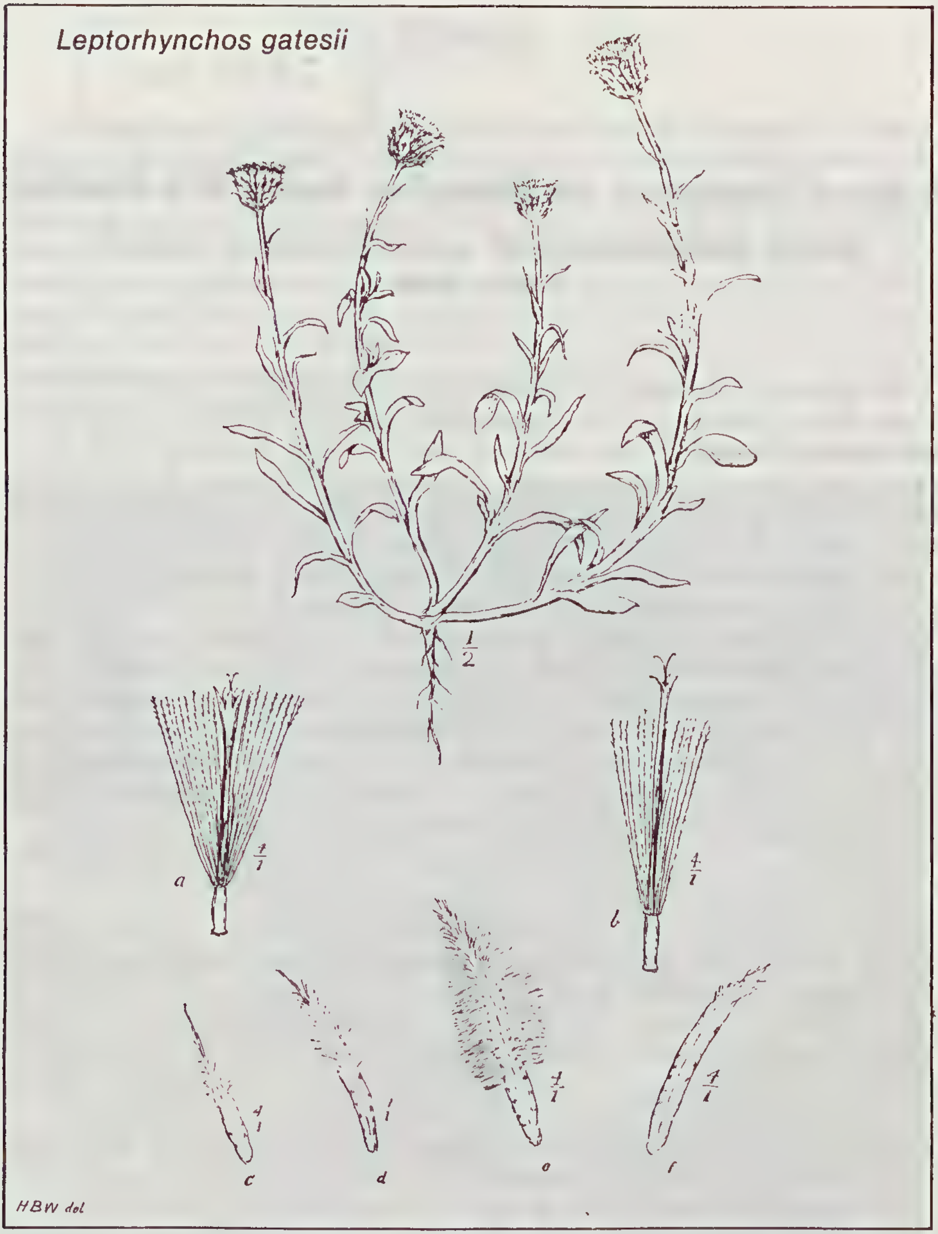
REFERENCE

Leigh, J., Boden R., and Briggs, J. (1984) *Extinct and Endangered Plants of Australia.* Macmillan, Melbourne.

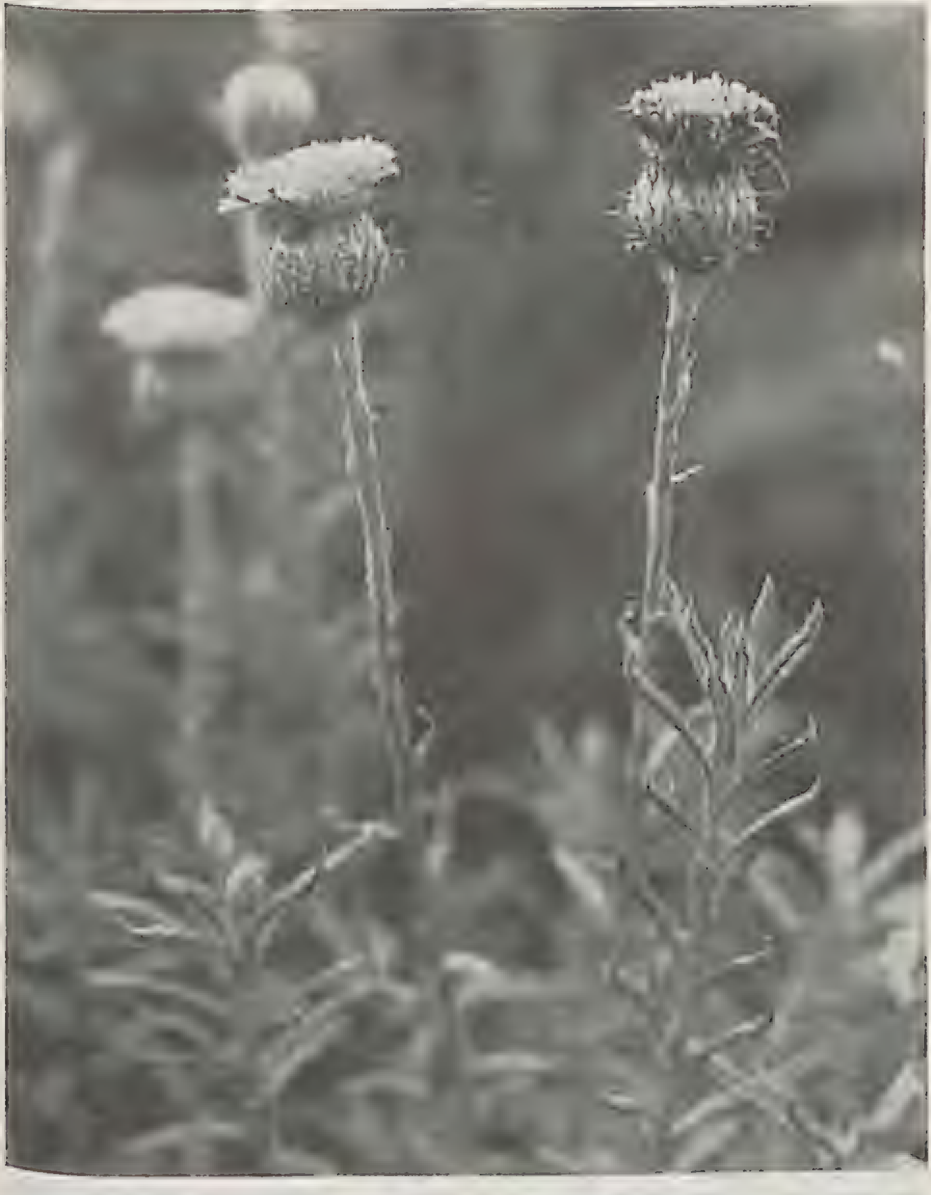
Mary D. White, 4 McMillan St., Anglesea, 3230.

Note: Involucral bracts: Bracts forming a whorl or several whorls, surrounding an inflorescence, a flower, or a cone.
Ciliate: Fringed with hairs.

(Beadle, N.C.W., Evans, O.D., and Carolin, R.C. (1972) *Flora of the Sydney Region.* Reed, Sydney. Glossary, pp 13-36.)



Botanical illustration by H.B. Williamson, accompanying his original description in the *Proceedings* of the Royal Society of Victoria (New Series, 35 (1922) 24-6). Reproduced by permission of the Royal Society of Victoria.



Leptorhynchos gatesii Photograph by Trevor Pescott

Notes on Bats at Moggs Creek, Angahook-Lorne Forest Park, Victoria

Lawrie Conole

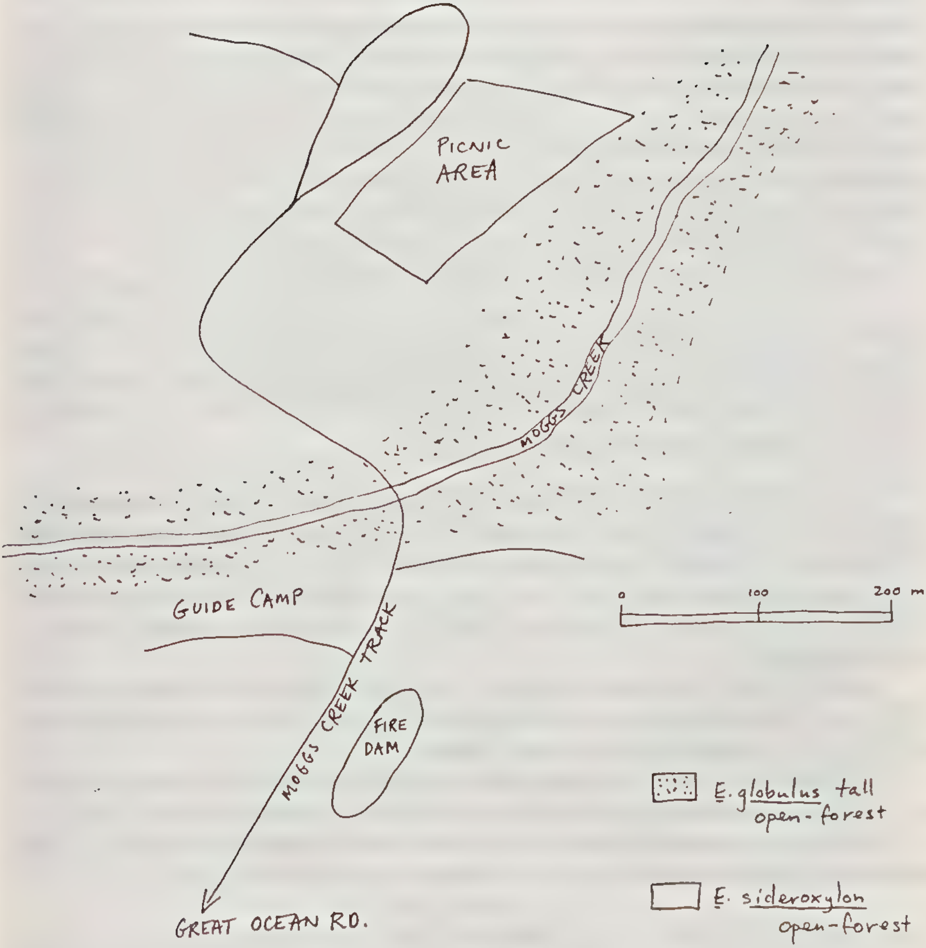
This note reports observations on the activity of bats around a fire-dam at Moggs Creek and the adjacent creek gully, both shortly before, and one year after, the Ash Wednesday holocaust. The observations are for only two points in time and some of my conclusions must be regarded as tentative.

A feature of the Moggs Creek gully is the tall open-forest of Blue Gum *Eucalyptus globulus*, which differs from the surrounding open-forest of Red Ironbark *E. sideroxylon*, which in turn gives away to Messmate Stringybark *E. obliqua* both inland and towards the coast. (See map.)

On 12 February 1983 (four days before Ash Wednesday) the author and Grant Baverstock, assisted by the Brand family, trapped bats at the fire-dam on an unseasonal cold, bright and calm night. Vespertilionid ("Ordinary") bats were generally abundant, and a good capture rate was obtained despite the adverse conditions. (Bat catching tends to be less successful on cold bright nights.) One Great Pipistrelle *Pipistrellus tasmaniensis*, two Large Forest Eptescicus *Eptesicus sagittula* and five Gould's Wattled Bats *Chalinolobus gouldii* were captured. Gould's Long-eared Bat *Nyctophilus gouldi* and the Lesser Long-eared Bat *N. geoffroyi* were abundant, and agonistic interaction occurred frequently (Conole and Baverstock, 1983 b). The White-striped Mastiff-bat *Tadarida australis* passed overheard on several occasions, but these Molossid (Mastiff) bats were not abundant around the dam.

In contrast, on 25 February 1984, the author and Grant Baverstock once again set up trip-lines on the fire-dam, but this time captured no bats. The night was similarly cold, bright and calm, but bat activity was quite different. Although bats were not handled, they were identified by observation of flight silhouette and flight characteristics at dusk, and observation by spotlight. Two QMC Mini Bat Detectors were also used.

In 1984, Vespertilionids appeared to be less abundant and Molossids more abundant than in 1983. While the greater availability of surface water in 1984 could have meant that the Vespertiolinids were more widely dispersed, other evidence suggests that the local population still depended on this fire-dam.


PICNIC AREA
MOGGS CREEK
GUIDE CAMP
MOGGS CREEK TRACK
FIRE DAM
GREAT OCEAN RD.
0
100
200 m
E. globulus tall open-forest
E. sideroxylon open-forest

At dusk, we walked down from the fire-dam to the Moggs Creek road intersection in the gully. I anticipated that the majority of local bats that survived the very severe fire would be roosting in *E globulus* in the gully, due to the general lack of hollows and other roosts in *E sideroxylon.* All bats detected were seen to fly out of the gully and along the road towards the dam. No bats were detected returning to the gully as we walked back to the dam.

The trip-lines were left in place on 25 February 1984 from about 8 pm. to 10.30 pm. (EDST), during which time we recorded only three collisions of bats with the lines. No bats were captured and on only one occasion did a bat stay on the water surface after tripping – a Gould's Long-eared Bat which almost immediately flew away. (This escape is typical of bats with relatively broad wings, which give them greater manoeuvrability in confined spaces, so that they can easily lift off from the surface of the water. Species with long narrow wings find this more difficult.)

White-striped Mastiff-bats were frequently heard and seen, with up to six individuals foraging over the dam at times. Bats of *Eptesicus* species were frequently observed taking mosquitoes from around us. Bats identified leaving the gully at dusk and foraging around the dam were one Great Pipistrelle, one Chocolate Wattled Bat, and a number of Gould's Wattled Bats and Lesser Long-eared Bats.

Conclusion

I believe that since Ash Wednesday, Vespertilionid bats, particularly of the genus *Nyctophilus*, are less abundant than before the fires, and the White-striped Mastiff-bat is more abundant. It also appears that *most* local bats are roosting in tall Blue Gum open-forest in the gully, and that the Iron Bark open-forest is mostly used for foraging rather than roosting.

Achknowledgements

I wish to thank the Brand family for assistance during trapping on 12 February 1983, and also Grant Baverstock, my colleague in all bat survey work around Geelong and further afield.

The QMC Mini Bat Detectors were purchased from QMC Instruments in London with funds generously granted by the M.A. Ingram Trust.

All protected species of bat were handled under the provisions of scientific permits issued by the Fisheries and Wildlife Division.

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L.E. Conole, 85 Clarence St., Geelong West, 3218

Defence of a Musk Duck against a Peregrine Falcon

Marilyn Hewish

On 26 February 1984, at about 1 pm., I was bird-watching with Royce Borgelt of Greendale in the Brisbane Ranges. We were walking between Twin Lakes and a reedy swamp to the south when we flushed a raptor from a tree overhanging the swamp. It flew low over the swamp and was lost to sight over the trees. From its pointed wings, bulky body, slate-grey back and characteristic black head pattern, we identified the bird as a Peregrine Falcon *Falco peregrinus*.

About 30 seconds later, we saw the falcon again. It was flying at a height of about 15 metres over the centre of the lake, when it swooped in a fast shallow dive towards the water. As it reached the water, there was a splash, with water thrown high into the air, obscuring the falcon. For a moment I thought that it had plummeted into the water, until I saw it climbing steeply away.

Turning my binoculars on the point of apparent impact, I saw a male Musk Duck *Biziura lobata*, continually throwing jets of water high behind it with its feet; this explained the origin of the splash. After a few more kicks it stopped.

The kicking of water jets is a well-known feature of the mating display of the male Musk Duck. Here, however, it was used outside the usual display and mating season (Frith 1967), as a defence against a predator. A gush of water into the face of a swooping raptor would seem to be an effective way of unsighting it.

There is a puzzling aspect to this scenario, however. It is difficult to imagine that the Peregrine Falcon attacked in a serious search for food, as a male Musk Duck is very heavy, bulky, and so pungent-smelling as to be inedible. Although the male Musk Duck may not depend on this defence for his own survival, it could be an advantage to discourage raptors, thus protecting the more vulnerable females and ducklings in the area. It is unlikely that the female would use water-kicking as a defence, as it is not part of her normal mating display.

REFERENCE

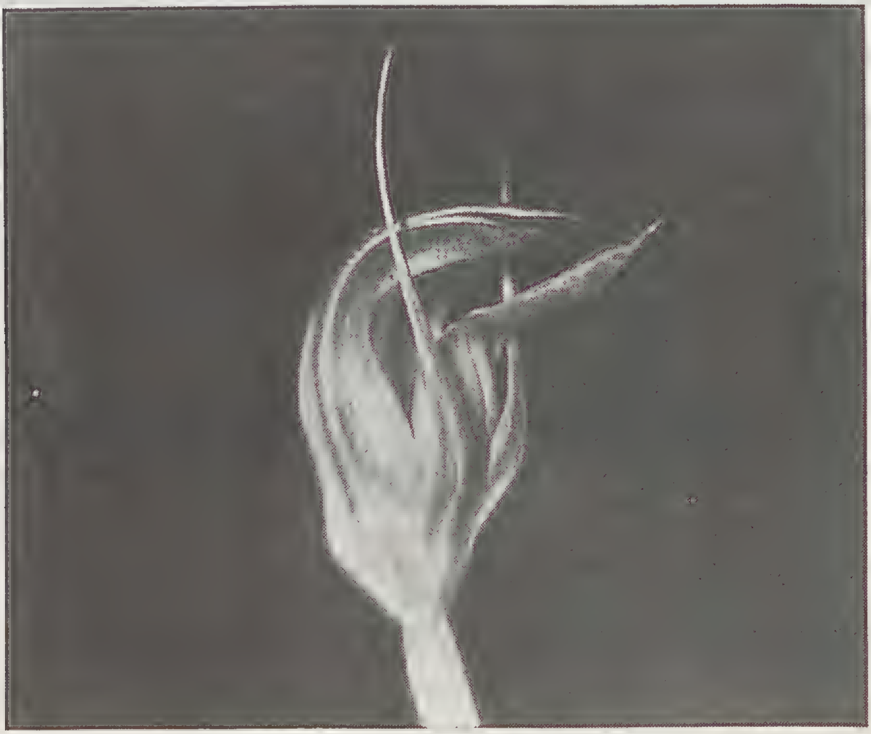
Frith, H.J. (1967) *Waterfowl in Australia*. Angus and Robertson, Sydney.

Marilyn Hewish, 74 Wellington St., Bacchus Marsh 3340.

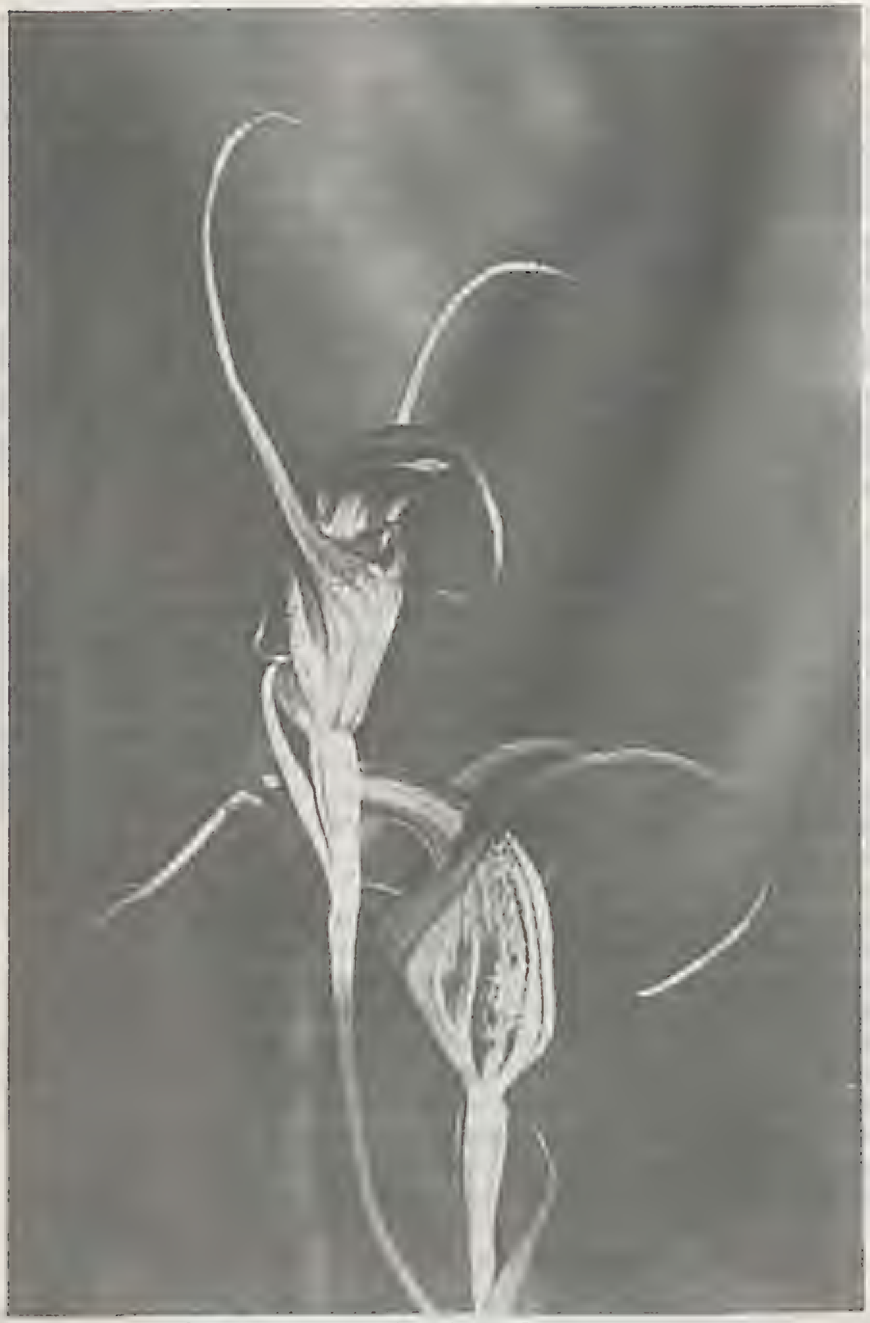
Our Second Orchid Trip to South Gippsland

Stan Finck

On 24 March 1984, my wife Norma and I left Geelong at 1.55 pm. on our second trip to East Gippsland. We camped that night at Strafford Highway Park. This is a very nice place with picnic tables and toilets, beside a large water hole, in a beautiful gum tree setting. There is a good gravel road through the park. We left at 7 o'clock the next morning and went to Newmerella, where we left the highway to go down to Coringle beach. There we found the Jug Greenhood *Pterostylis alveata,* and the Hidden Greenhood *Pterostylis crypta,* which is very rare. From there we headed back to the highway, and on towards Genoa to look for the Green Midge-orchid *Prasophyllum viride.* This orchid was found in Victoria last year: it is a New South Wales species, recorded in Victoria on only two previous occasions, in April and May 1960. We turned off the road over the Wingam River bridge, went a short distance along a track, and found the orchid we had come so far to see.



Pterostylis crypta Hidden Greenhood



Pterostylis laxa Antelope Greenhood

Then we headed back towards Orbost. By this time the day was slipping by, so when we came to a sign for Lind National Park, we went in. At a fork in the track we turned left down the Euchre Valley drive, and came to a picnic area on Growlers Creek. This was one of the nicest fern valleys we have ever seen, so we stayed the night there. There was a lot of bird life around, including Lyrebirds. Although we did not see any, we could hear them calling, and the ground was like a pigyard where they had been scratching among the trees and ferns. On Sunday morning we left camp, heading for Wulgulmerang; along the highway via Club Terrace and Orbost, up the Bonang Highway to Bonang, then on a very narrow track cut out of the side of the mountain until we came to what they call the saddle, where the track turned into a road. On our way we called into the Little River gorge. Coming out Norma spotted a patch of the Autumn Greenhood *Pterostylis revoluta*, then a little further *P. fischii.* We moved on to the same place we had camped on 7 January, near Little River bridge. There were six species of *Pterostylis* here!

Next morning we left at about 8 o'clock – a lovely morning with patches of fog, and the sun shining on the beautiful alpine farmlands. We went on up to Mount Hamilton to find a new Helmet Orchid discovered about 1970 by the late Mr. Keith Rogers and Cliff Beauglehole, and named *Corybas hispidus*, ("Hispid" means densely covered with short hairs or bristles). Turning for home via Buchan, we arrived at our daughter's home at Knoxfield at 6 o'clock. It was pouring rain, but we had had a wonderful trip, with good weather up in the high country. We arrived home in Geelong at lunchtime on Monday 26th.

List of Orchids

Pterostylis rufa var. *rufa*	Rusty-hood
Pterostylis aestiva	Long-tongue Greenhood
Pterostylis obtusa	Blunt-tongue Greenhood
Pterostylis alveata	Jug Greenhood
Pterostylis crypta	Hidden Greenhood
Pterostylis revolta	Autumn Greenhood
Pterostylis laxa	Antelope Greenhood
Pterostylis fischii	Fisch's Greenhood
Pterostylis longifolia	Tall Greenhood
Prasophyllum viride	Green Midge-orchid
Corybas hispidus	Hispid Helmet-orchid

Stan Finck, 18 Lucas St., Newcomb 3219.

Editor's Note: The vernacular names used are those in Cliff Beauglehole's *Distribution and Conservation of Vascular Plants* in the various areas of Victoria.

Lal Lal Excursion, 20 March 1983

Craig Morley

An area of 30 hectares, set aside by the Forest Commission as a Special Purpose Reserve, is managed by a committee comprising representatives of the West Mooorabool Water Board, the National Trust, the Shire of Buninyong and the Forest Commission.

The Bungal Dam on the West Moorabool River was completed in 1972 and supplies town water for Geelong and Ballarat. It has an effective capacity of 59,500 megalitres and a maximum depth of 42 metres. The Dam takes its name from the nearby historic Bungal pastoral lease originally selected in 1840 by Egerton and Dibble.

The remains of the blast furnace within the reserve have been classified "A" by the National Trust of Australia, "to be preserved at all costs".

The Lal Lal Iron Company was established in the 1870s and was closely associated with the boom days of Ballarat, as a deep lead gold mining centre. The gold mines generated a local engineering industry which produced mining machinery and equipment, railway locomotives and rolling stock, tools and ornaments.

Chronology of events

(There appears to be some conjecture regarding some of these dates, as there is a one or two year variation depending on the source consulted.)

1857	A significant deposit of iron ore was found in this area, on the west bank of the Moorabool River.
1874	Lal Lal Co. Ltd. registered.
1875	Experimental blast furnace built.
1876	Original company de-registered and a no-liability company formed.
1875-78	Difficulty experienced finding a suitable smelter fuel. Charcoal from timber, brown coal from a nearby Lal Lal deposit, and coke from gas works at Ballarat and Geelong were all tried with varying degrees of success.
1878	A larger furnace built, the capacity of which proved too small.
1880 May	A much bigger furnace built, the remains of which stand today. Completed in early 1881.
1881 March 26	First 4 tons of pig iron drawn off.

1881-84	2,260 tons of pig iron produced from 4,429 tons of ore.
1883	Lal Lal Iron Co. Ltd. took over from the no liability company.

Financial problems handicapped the company throughout its history, although 1883 was reported as a good year.

1883	Phoenix Foundry established in Ballarat to use the company's pig iron.
1884	Company closed down, despite the fact that 800 tons of pig iron had been produced up until May. The price of pig iron had fallen from $20 to $9 per ton, between 1881 and 1884. No doubt this was a significant factor in the closure.
1889	Attempt to re-open.
1891	Auction for the disposal of assets did not attract a single buyer. The ultimate fate of the assets is still a mystery. The Ballarat foundry survived until 1886 or 1887.

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Forest Commission. *Lal Lal Blast Furnace.* (Forest Commission, Victoria, Information Sheet), c.1976.
Atlas of Victoria. Victorian Government Printer, 1982.

BIRD LIST

Valda Dedman and Craig Morley

En route: Geelong to Lal Lal and return

Brown Falcon	*Falco berigora*	3 or 4 alongside the road near Clarendon
Silver Gull	*Larus novaehollandiae*	Several over outskirts of Geelong
Pallid Cuckoo	*Cuculus pallidus*	One on fence near Elaine
Laughing Kookaburra	*Dacelo novaeguineae*	4 or 5 on powerlines
Welcome Swallow	*Hirundo neoxena*	Several
Willie Wagtail	*Rhipidura leucophrys*	Several along roadside
Yellow-rumped Thornbill	*Acanthiza chrysorrhoa*	Small flock flushed from roadside near Meredith
European Goldfinch	*Carduelis carduelis*	3 or 4 near Meredith
House Sparrow	*Passer domesticus*	Common along roadside
Common Starling	*Sturnus vulgaris*	In suburbs and farmland
Australian Magpie-lark	*Grallina cyanoleuca*	Several
Australian Magpie	*Gymnorhina tibicen*	Several in open areas
Australian Raven	*Corvus coronoides*	Several near Meredith, identified by throat hackles
Little Raven	*Corvus mellori*	Common around the outskirts of Geelong (Hamlyn Heights)

Birds in Lal Lal area

Grebe sp.		Small groups seen at a distance on Bungal Dam. Probably Little Grebe *Podiceps ruficollis*
Little Pied Cormorant	*Phalacrocorax melanoleucos*	Small number of birds on Bungal Dam or perching along shoreline
White-faced Heron	*Ardea novaehollandiae*	Small number around shoreline of Dam
Black Swan	*Cygnus atratus*	20+ roosting along shoreline of Dam
Mountain Duck	*Tadorna tadornoides*	Several roosting along shoreline
Brown Goshawk	*Accipiter fasciatus*	One gliding over treetops
Wedge-tailed Eagle	*Aquila audax*	Single birds patrolling river valley
Coot	*Fulica atra*	Several small parties on Dam.
Galah	*Cacatua roseicapilla*	Heard in woodland bordering farmland
Crimson Rosella	*Platycercus elegans*	A number of single birds and small parties of up to 5
Welcome Swallow	*Hirundo neoxena*	Loose flocks over Dam and Blast Furnace picnic ground.
Scarlet Robin	*Petroica multicolor*	A number of pairs, particularly along the river
Yellow Robin	*Eopsaltria australis*	Several in area around Blast Furnace
Golden Whistler	*Pachycephala pectoralis*	Several heard, particularly along the river
Grey Shrike-thrush	*Colluricincla harmonica*	Frequently heard
Restless Flycatcher	*Myiagra inquieta*	One heard near river
Grey Fantail	*Rhipidura fuliginosa*	Frequently heard and seen
Superb Fairy-wren	*Malurus cyaneus*	Heard in low vegetation along river and road into Blast Furnace
White-browed Scrubwren	*Sericornis frontalis*	Heard in low vegetation along river
Brown Thornbill	*Acanthiza pusilla*	Heard and seen frequently
Striated Thornbill	*Acanthiza lineata*	Several in treetops along river and in Messmate woodland
White-throated Treecreeper	*Climacteris leucophaea*	Numerous. More frequently heard than seen

Red Wattlebird	*Anthochaera carunculata*	One or 2 passing through treetops along river
Noisy Miner	*Manorina melanocephala*	Heard and seen frequently in open woodland and farmland areas between Blast Furnace reserve and Lal Lal Falls
Yellow-faced Honeyeater	*Lichenostomus chrysops*	Heard in treetops along river
White-eared Honeyeater	*Lichenostomus leucotis*	More frequently heard than seen throughout reserve
Brown-headed Honeyeater	*Melithreptus brevirostris*	One heard in treetops along river
White-naped Honeyeater	*Melithreptus lunatus*	Several birds heard along river
Spotted Pardalote	*Pardalotus punctatus*	Several individuals heard
Grey Currawong	*Strepera versicolor*	One or two heard
Australian Magpie	*Gymnorhina tibicen*	Small number in farmland adjoining the reserve
Australian Raven	*Corvus coronoides*	A few single birds flying over treetops

Bungal Dam, Lal Lal

Plant List

Leila Ramsay

Acacia dealbata	Silver Wattle	Only one specimen identified
Acacia melanoxylon	Blackwood	Common
Astroloma sp.		
Dillwynia glaberrima	Small Parrot-pea	
Epacris impressa	Common (Pink) Heath	
Eucalyptus obliqua	Messmate Stringybark	
Eucalyptus radiata	Common Peppermint	Predominant eucalypt in the area
Hibbertia stricta	Erect Guinea-Flower	
Hovea heterophylla	Common Hovea	
Lepidosperma laterale	Variable Sword-sedge	
Leptospermum juniperinum	Prickly Tea-tree	
Leptospermum myrsinoides	Heath (Silky) Tea-tree	One specimen identified
Pultenea daphnoides	Wide-leafed Bush-pea	
Pultanea gunnii	Golden Bush-pea	
Pultenea humilis	Dwarf Bush-pea	
Pultenea pedunculata	Matted Bush-pea	
Xanthorrhoea australis	Common Grasstree	
Xanthorrhoea minor	Small Grasstree	More numerous than *X. australis*

An unusual feature of the reserve is the density of *Xanthorrhoea minor* which does not usually occur as far east as this.

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Club members at Lal Lal

Excursion to Lake Borrie/M.M.B.W. Farm (Werribee)

Marilyn Hewish

On 19 February 1984, 28 people joined the G.F.N.C. excursion to Lake Borrie and the M.M.B.W. Farm. This area is famous for the variety and abundance of its birdlife. It provides a range of fresh and saltwater habitats for waterbirds, including large shallow Lake Borrie, the deeper settling ponds, freshwater marshes, flooded fields, and the tidal mudflats and beach at the outlet of the Little River into Port Phillip Bay.

Club members drove their cars along the farm roads, stopping for bird-watching along the shore of Lake Borrie, at the Paradise Road lagoon, along the Little River to its outlet, and at the Austin Lagoons. 46 species of birds were seen.

The M.M.B.W. Farm provides rich feeding grounds for large numbers of migratory waders in spring and summer, and for non-migratory waders (Oystercatchers, Masked Lapwings, small plovers) year-round. On this visit, the exposed mudflats at the Little River mouth were covered with feeding flocks of small waders – Sharp-tailed Sandpipers, Curlew Sandpipers, and Red-necked Stints. As we watched, flocks of a few hundred small waders were continually flying in. Relatively few waders were seen at other sites. There were a few Curlew Sandpipers and Red-necked Stints at the Paradise Road Lagoons, and one Greenshank on the shore of the Little River.

There were large numbers of Chestnut Teal, Australian Shelduck, and Pink-eared Ducks on Lake Borrie. They were concentrated in the centre of the Lake, either swimming or roosting in dead trees. The Pink-eared Duck were spinning around in the water, with their distinctive feeding action. The dead trees provided roosts for many other waterbirds, including four species of cormorants, Sacred and Straw-necked Ibis, a Royal Spoonbill, and Eurasian Coots.

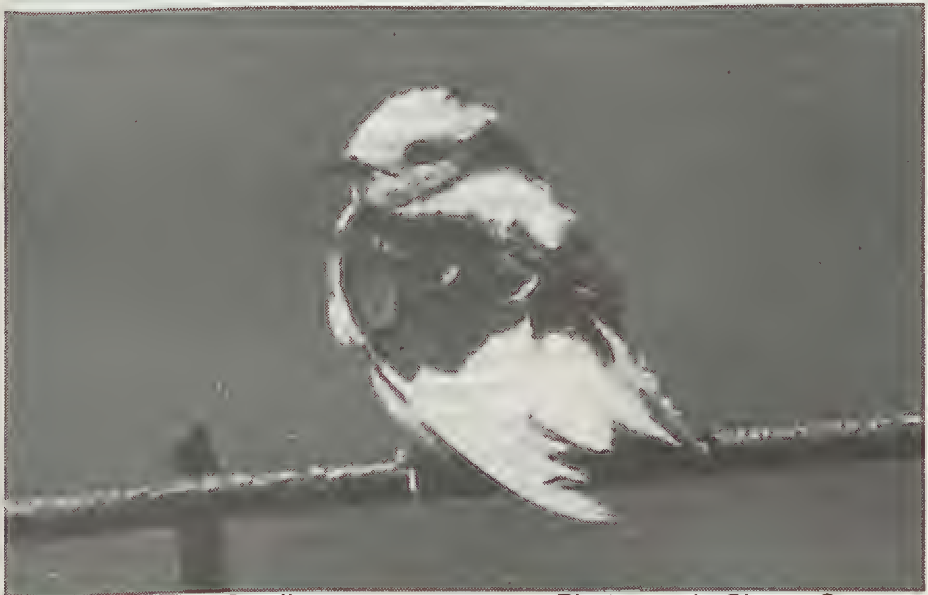
The passerine birds of waterside and coastal vegetation were abundant, with flocks of Golden-headed Cisticolas being flushed by the cars. By the entrance gate from Beach Road, the bushes were alive with birds.

Of particular interest was a partial-albino Welcome Swallow, seen flying among feeding Welcome Swallows and Fairy Martins over the Little River. In flight, its white wings and tail were particularly noticeable, and it was repeatedly attacked by other swallows. Good views of its unusual plumage were obtained when it perched on a fence beside the Little River, allowing observers and photographers to approach closely.

The M.M.B.W. Farm is an important breeding area for waterbirds, as it is a large undisturbed area with access restricted and shooting prohibited. On this visit, there were several sightings of immature birds, including a group of Grey Teal ducklings and a Purple Swamphen with two chicks. Four immature Whiskered Terns, distinguished by the dark-grey mottling on their backs, were roosting on a mud island in the Little River. At the Paradise Road lagoons, there were several immature Black-winged Stilts of various ages, some still downy, with a group of adults. The youngest birds were crouched in lush grass, and were difficult to see.

At the Little River mouth, there was a diversion from bird-watching. Delicate black and yellow Jewel Spiders were discovered, with their colonial webs draped over the saltmarsh vegetation.

It was encouraging during our visit to have these striking demonstrations that a man-made environment does not have to be hostile to birds. By careful management, the Lake Borrie/M.M.B.W. Farm complex is not only an effective sewerage treatment system, but has also become a major feeding ground and breeding refuge for a wide variety of birdlife.



Albino Welcome Swallow Photograph: Simon Cropper

Bird List

Hoary-headed Grebe	*Poliocephalus poliocephalus*
Australian Pelican	*Pelecanus conspicillatus*
Great Cormorant	*Phalacrocorax carbo*
Pied Cormorant	*Phalacrocorax varius*
Little Black Cormorant	*Phalacrocorax sulcirostris*

Little Pied Cormorant	*Phalacrocorax melanoleucos*
White-faced Heron	*Ardea novaehollandiae*
Cattle Egret	*Ardeola ibis*
Sacred Ibis	*Threskiornis aethiopica*
Straw-necked Ibis	*Threskiornis spinicollis*
Royal Spoonbill	*Platalea regia*
Black Swan	*Cygnus atratus*
Australian Shelduck	*Tadorna tadornoides*
Pacific Black Duck	*Anas superciliosa*
Grey Teal	*Anas gibberifrons*
Chestnut Teal	*Anas castanea*
Pink-eared Duck	*Malacorhynchus membranaceus*
Musk Duck	*Biziura lobata*
Marsh Harrier	*Circus aeruginosus*
Dusky Moorhen	*Gallinula tenebrosa*
Purple Swamphen	*Porphyrio porphyrio*
Eurasian Coot	*Fulica atra*
Pied Oystercatcher	*Haematopus longirostris*
Masked Lapwing	*Vanellus miles*
Red-capped Plover	*Charadrius ruficapillus*
Black-winged Stilt	*Himantopus himantopus*
Greenshank	*Tringa nebularia*
Sharp-tailed Sandpiper	*Calidris acuminata*
Red-necked Stint	*Calidris ruficollis*
Curlew Sandpiper	*Calidris ferruginea*
Silver Gull	*Larus novaehollandiae*
Whiskered Tern	*Chlidonias hybrida*
Skylark	*Alauda arvensis*
Welcome Swallow	*Hirundo neoxena*
Fairy Martin	*Cecropis ariel*
Richard's Pipit	*Anthus novaeseelandiae*
Clamorous Reed-Warbler	*Acrocephalus stentoreus*
Little Grassbird	*Megalurus gramineus*
Golden-headed Cisticola	*Cisticola exilis*
Superb Fairy-wren	*Malurus cyaneus*
Calamanthus	*Sericornis fuliginosus*
White-fronted Chat	*Ephthianura albifrons*
House Sparrow	*Passer domesticus*
Common Starling	*Sturnus vulgaris*
Australian Magpie	*Gymnorhina tibicen*
Little Raven	*Corvus mellori*

Marilyn Hewish, 74 Wellington St., Bacchus Marsh, 3340.

Book Review

Lawrie Conole

The Australian Museum Complete Book of Australian Mammals,
R. Strachan, (ed.), Angus & Robertson, Sydney, 1983. 530pp. $45.00.

Perhaps the most significant publication on Australia's mammal fauna since John Gould's *The Mammals of Australia*, this book had a huge reputation to honour even before it was published. As a comprehensive guide to identification and current taxonomic status, and as a work of art, it was anxiously awaited by specialists and generalists alike.

Obviously intended as a companion volume to the *Readers Digest Complete Book of Australian Birds*, this book is set out in a similar format, except that each major grouping (order, family, some sub-families) is accompanied by a brief text in addition to the individual species accounts. The text for each species outlines distribution, size, identification, recent synonyms, other common names, status, subspecies, and two relevant references. This account is supported by one or more photographs from the Australian Museum National Photographic Index of Australian Wildlife.

As one would expect of a publication of this size and scope, each species is dealt with by an expert in the field; over 100 authors contributed. It is this multitude of authors that leads to my major criticism of the editor's work. The text is imbalanced in both volume and content due to the differing degrees of specialisation of each of the authors. Whilst many authors gave a general life history and overall biology discussion, some tended to concentrate on more obscure subjects such as chromosome races in rock-wallabies *(Petrogale* spp., *Peradorcas concinna).* This also gives rise to the situation where some species barely rate 100 words whilst others are nearer to 1000.

Perhaps more of a disappointment than a failing, there are some photographs which are less than excellent. Whilst many were anxious to see the book published, I for one would have happily waited longer if there was a chance of all plates being equally excellent. Overall however, the photographic excellence is unquestionable and should prove especially useful for field identification.

Readers should also note that several of the distribution maps are not up-to-date, and some are incorrect. There are also a few errors in the book:

> The Eastern Broad-nosed Bat *Nycticeius orion* has been completely omitted (even from synonymy with sibling species).
>
> The plate on page 250 labelled *Macropus robustus woodwardi* Common Wallaroo actually depicts a Red Kangaroo and an Antilopine Wallaroo. The plate on page 251 is correct.

The lower plate on page 362 captioned *Eptesicus douglasi* Yellow-lipped Eptesicus depicts a Northern species of Nyctophilus, either *N. walkeri* Pygmy Long-eared Bat or *N. arhemensis* Arnhem Land Long-eared Bat.

The plates of seals on pages 470 and 471 are labelled wrongly: the Leopard Seal is on page 471 and the Weddell Seal on page 470. (These errors have been discussed with the editor Ronald Strachan).

Despite these shortcomings, this book is the best publication available today on Australian mammals. Much of the text is in fact previously unpublished material: many species have never been seen before in such excellent illustrations. No serious mammalogist should be without it – it warrants inclusion in any Australian library. *The Australian Museum Complete Book of Australian Mammals* is not a coffee table book – it is to be used. I consider it to be one of the best natural history books published in a very long time.

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Hour Count No. 47 — Hopetoun, Vic.

Roy Wheeler

On February 25, 1982 I gave a talk to the Horsham Field Naturalists Club and stayed a few days in the district visiting the Grampians and Little Desert National Park, etc. I had written to my old friend Mr. Henry Hobson of Rosebery and he came down and took me back to Rosebery. From there we visited such places as Wyperfield National Park, Hopetoun, Hattah Kulkyne National Park, Lake Hindmarsh, Lake Albacutya (now a National Park), and Rainbow. The season was very dry – the start of the drought of 1982-83. We visited Hopetoun on March 3 and did two hour counts, one on Lake Lascelles and the other on Lake Corrong.

Hopetoun, the centre of the Shire of Karkarooc, is in the rich southern Mallee, a cereal-growing and fat lamb raising area. The town was named after John Adrian Louis Hope, 7th Earl of Hopetoun, who was Governor of Victoria and the first Governor-General of the Commonwealth of Australia. Lord Hopetoun often visited Hopetoun as the guest of Edward Harewood Lascelles (Father of the Mallee), whose courage and enterprise was largely responsible for the opening up of the Mallee. The towns surrounding Hopetoun, whose positions are marked for miles away by the large grain silos at their railway stations, are Beulah, Lascelles, Patchewollock, Speed, Tempy, Yaapeet and Woomelang. Beulah has a million bushel storage. Due to efforts of the local residents Lake Lascelles was built in 1971 and filled in 1972. Since then the State Rivers and Water Supply has kept it filled. Like the small lake at Boort, it is used for water sports, sailing and swimming. Lake Corrong dries out most years. Hopetoun is advertised as "Gateway to the Parklands" which include Wyperfeld National Park, some 45 km to the west, and Wathe Faunal Reserve at Lascelles, a natural breeding ground for Mallee Fowl. Hopetoun was the Premier Town of the State in 1973. Hopetoun House, formerly the home of the Lascelles family, was built in 1891 and is classified by the National Trust. Corrong Homestead is also classified by the National Trust.

My grateful thanks to Henry Hobson for taking me to the places I have mentioned. We listed 147 species of birds over our wanderings.

Hopetoun, Vic. Lake Lascelles. East side overlooking shallow area bordering Lake Corrong. Fast drying out. Red Gums and Black Box.
March 3rd, 1982. From 10.35 to 11.35 a.m.

Roy Wheeler and Henry Hobson

Birds in order of sighting: Silver Gull, 50; Coot, 20; Musk Duck, 4; Little Pied Cormorant, 150; White Ibis, 6; Black-backed Magpie, 4; Spurwinged Plover, 4; Grey Teal, 30; Yellow-billed Spoonbill, 3; Little Grebe, 2; Red-rumped Parrot, 20; White-faced Heron, 2; Black-tailed Native Hen, 60; Little Black Cormorant, 2; Starling, 6; Welcome Swallow, 12; Black Cormorant, 2; Noisy Miner, 12; Galah, 20; Scissors Grinder, 2; Black Duck, 6; Pink-eared Duck, 3; Raven, 2; Magpie-lark, 2; Marsh Tern, 2; Striated Pardalote, 1; Kookaburra, 1; Red-kneed Dotterel, 6; Willie Wagtail, 2; White-headed Stilt, 1; Little Falcon, 1;

Total 31 species 438 individuals.

Hopetoun, Vic. Lake Corrong North side of Lake drying out rapidly. Black Box and Red Gum. March 3rd, 1982. Fine and sunny with east breeze. Conditions perfect. 12.45 to 1.45 p.m.

Roy Wheeler and Henry Hobson

Birds in order of sighting: Magpie Lark, 12; White-headed Stilt, 12; Spurwinged Plover, 30; Sharp-tailed Sandpiper, 20; Grey Teal, 200; Red-kneed Dotterel, 1; Silver Gull, 28; Mountain Duck, 22; Wood Duck, 34; Coot, 250; Banded Stilt, 1; Black-backed Magpie, 2; Pink-eared Duck, 12; Starling, 15; Red-necked Stint, 1; Black-tailed Native Hen, 20; Willie Wagtail, 1; White-fronted Chat, 30; Welcome Swallow, 2; Noisy Miner, 1; Striated Pardalote, 1; Black Duck, 2; Galah, 2; White-plumed Honeyeater, 1; Raven, 2; White-faced Heron, 1; Marsh Tern, 1; Red-capped Dotterel, 6; Red-necked Avocet, 3.

Total 29 species and 710 individuals.

Roy Wheeler, 59A Upton Rd., Windsor, Vic. 3181.

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Editorial

Sometimes our magazine records happy accasions – the Club's 21 st birthday, or the rediscovery of a lost plant.

This issue records two sad events.

Firstly, Roy Wheeler's Hour Count at Hattah, in this issue, will be the last we publish. Roy's serious illness has made it impossible for him to continue the series, which has given so much pleasure to so many. He has told us of many good birding spots, and enlivened his accounts with details of habitat and history. He has set an example of careful systematic observation, and shown how much can be seen by sitting quietly in one place – an encouragement to less mobile, perhaps older, birdwatchers. Return counts in the same places would be worthwhile, to show changes over time.

Sadder still is Jack Wheeler's death on October 4th. A foundation member of the Club, a Committee member for more than half its life, a guide and inspiration to many people interested in natural history, Jack will be very much missed. Next issue will include a fuller tribute.

Margaret Cameron.

Birds of the Western Section of the Angahook-Lorne Forest Park, Victoria

L. Conole and G. Baverstock

This paper reports observations on birds in the area previously known as Lorne Forest Park and now as the western section of the Angahook-Lorne Forest Park. The observations were made during an intensive mammal survey of the park during 1981, 1982 and 1983 (Conole & Baverstock, 1983). Most of the Lorne section was unaffected by the Ash Wednesday wildfire of 1983. A total of 135 species of birds was recorded.

Because bird observation was of secondary importance during the fieldwork, data presented is of a very basic presence/absence type at different locations within the park.

The main survey sites within the Lorne Forest Park were Cora Lynn, Sheoaks Picnic Area, Mount Cowley, Wye Plantations, Jamieson River and Grey River Scenic Reserve. Cora Lynn, Sheoaks, Mt. Cowley and Grey River are areas of tall, wet gully forest dominated by *Eucalyptus cypellocarpa*, *E. globus*, *E. obliqua* and *E. reqnans.* Open-forest and/or woodland of *E. obliqua* and *E. radiata* occur on ridges or midslope areas. Jamieson River has tussock grassland and heath grading through coastal scrub and *E. dives* woodland to *E. globulus* tall open-forest. Wye Plantations comprise dense *Acacia* and *Eucalyptus* sapling regrowth following clear-felling. In addition, Allan Dam (the Lorne water supply) is a waterbird haven in tall open-forest overlooking Cora Lynn.

Species Recorded

Key

C	Cora Lynn
S	Sheoaks Picnic Area
M	Mount Cowley
J	Jamieson River
W	Wye Plantations
G	Grey River Scenic Reserve
A	Allan Dam

v	very abundant
a	abundant
u	uncommon
r	rare
?	status unknown

Hoary-headed Grebe	*Poliocephalus poliocephalus*	u A
Australian Grebe	*Tachybaptus novaehollandiae*	u A
Little Penguin	*Eudyptula novaehollandiae*	a, offshore and beachwashed derelict.
Black-browed Albatross	*Diomedea melanophrys*	v, offshore.
Shy Albatross	*Diomedea cauta*	a, offshore.
Sooty Shearwater	*Puffinus griseus*	?, offshore from Kennett River.
Short-tailed Shearwater	*Puffinus tenuirostris*	v, offshore and beachwashed derelict.
Australian Gannet	*Morrus serrator*	a, offshore.
Australian Pelican	*Pelecanus conspicillatus*	u, occasionally offshore and overhead.
Black-faced Shag	*Leucocarbo fuscescens*	r, occasionally on rock platforms.
Pied Cormorant	*Phalacrocorax varius*	u, along shore.
Little Pied Cormorant	*Phalacrocorax melanoleucos*	u A, along shore.
Great Cormorant	*Phalacrocorax carbo*	a A, along shore.

Little Black Cormorant	*Phalacrocorax sulcirostris*	u A, along shore.
White-faced Heron	*Ardea novaeahollandiae*	a A, rock platforms along shore, estuaries.
Pacific Heron	*Ardea pacifica*	r A
Rufous Night-Heron	*Nycticorax caledonicus*	r A, occasional feathers found on shore.
Sacred Ibis	*Threskiornis aethiopica*	r, overhead.
Straw-necked Ibis	*Threskiornis spinicollis*	r, overhead.
Yellow-billed Spoonbill	*Platalea flavipes*	r A
Black Swan	*Cygnus atratus*	u A, occasionally offshore or overhead.
Australian Shelduck	*Tadorna tadornoides*	r A
Maned Duck	*Chenonetta jubata*	u A
Pacific Black Duck	*Anas superciliosa*	a A, once on St. George River.
Black-shouldered Kite	*Elanus notatus*	u, coastal dunes.
Brown Goshawk	*Accipiter fasciatus*	a C S M J W G A
Collared Sparrowhawk	*Accipiter cirrhocephalus*	r J

Grey Goshawk	*Accipiter novaehollandiae*	u C M J W G, grey phase once at Mt. Defiance.
Wedge-tailed Eagle	*Aquila audax*	u C J W G, occasionally overhead elsewhere.
Peregrine Falcon	*Falco peregrinus*	r, restricted mostly to Cumberland River area.
Australian Hobby	*Falco longipennis*	r S, once in Lorne.
Brown Falcon	*Falco berigora*	u S M J W, occasionally overhead.
Australian Kestrel	*Falco cenchroides*	u, coastal dunes.
Dusky Moorhen	*Gallinula tenebrosa*	u A, also Erskine and Kennett River estuaries.
Eurasian Coot	*Fulica atra*	u A
Purple Swamphen	*Porphyrio porphyrio*	r A
Pied Oystercatcher	*Haematopus ostralegus*	a, along shore.
Masked Lapwing	*Vanellus miles*	u, parts of Lorne and farmland.
Hooded Plover	*Charadius rubricollis*	r J
Silver Gull	*Larus novaehollandiae*	a, offshore and along shore.
Pacific Gull	*Larus pacificus*	u, along shore.

Crested Tern	*Sterna berguii*	a, offshore and along shore.
White-fronted Tern	*Sterna striata*	?, offshore.
Brush Bronzewing	*Phaps elegans*	a C S M J W G, throughout park.
Yellow-tailed Black Cockatoo	*Calyptorynchus funereus*	? C S M J W G
Gang-gang Cockatoo	*Callocephalon fimbriatum*	u C S M W G
Sulphur-crested Cockatoo	*Cacatua galerita*	a C S M J W G, throughout park.
Musk Lorikeet	*Glossopsitta concinna*	r S
Little Lorikeet	*Glossopsitta pusilla*	r C S
Purple-crowned Lorikeet	*Glossopsitta porphyrocephala*	r S
Swift Parrot	*Lathamus discolor*	r S
Australian King-Parrot	*Alisterus scapularis*	a C S M J W G, throughout park and in Lorne.
Crimson Rosella	*Platycercus elegans*	v C S M J W G, throughout park and in Lorne.
Blue-winged Parrot	*Neophema chrysostoma*	u C M W

Pallid Cuckoo	*Cuculus pallidus*	r C S
Brush Cuckoo	*Cuclus variolosus*	u C
Fan-tailed Cuckoo	*Cuculus pyrrophanus*	a C S M J W G, throughout park overwinters.
Horsfield's Bronze-Cuckoo	*Chrysococcyx basalis*	u C S M W G, other coastal scrubs.
Powerful Owl	*Ninox strenua*	r S G
Barking Owl	*Ninox connivens*	r S G
Southern Boobook	*Ninox novaeseelandiae*	a C S M J W G, throughout park.
Barn Owl	*Tyto alba*	u, coastal dunes.
Masked Owl	*Tyto novaehollandiae*	r S
Sooty Owl	*Tyto tenebricosa*	r S
Tawny Frogmouth	*Podargus strigoides*	a C S W G
Australian Owlet-Nightjar	*Aegotheles cristatus*	u C S M
White-throated Needletail	*Hirundapus caudacutus*	v, overhead during summer.
Fork-tailed Swift	*Apus pacificus*	v, overhead during summer.

Laughing Kookaburra	*Dacelo novaeguineae*	a C S M J W G, throughout park.
Azure Kingfisher	*Ceyx azurea*	r C A
Sacred Kingfisher	*Halycon sancta*	u C S
Skylark	*Alauda arvensis*	a, coastal dunes, introduced.
Richard's Pipit	*Anthus novaeseelandiae*	a, coastal dunes.
Welcome Swallow	*Hirundo neoxena*	a C S M J W G, nests in buildings and under bridges and culverts.
Fairy Martin	*Cecropis ariel*	a J, along coasts, nests under bridges and culverts.
Tree Martin	*Cecropis nigricans*	a C S M J W G J, overhead in forest areas, nests in dead trees in Allan Dam.
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*	u C S J W
White's Thrush	*Zoothera lunulata*	a C S M J W G, throughout park
Blackbird	*Turdus merula*	a C S M J W G, throughout park, introduced.
Rose Robin	*Petroica rosea*	u C S M G

Pink Robin	*Petroica rodinogaster*	u C S M G
Scarlet Robin	*Petroica multicolor*	u C S
Flame Robin	*Petroica phoenicia*	u A C M, nests in dead trees in Allan Dam.
Eastern Yellow Robin	*Eopsaltria australis*	a C S M J W G, throughout park
Crested Shrike-tit	*Falcunculus frontatus*	u C S J
Olive Whistler	*Pachycephala olivacea*	a C S M J W G
Rufous Whistler	*Pachycephala rufiventris*	u C S M W
Golden Whistler	*Pachycephala pectoralis*	a C S M J W G
Grey Shrike-thrush	*Colluricincla harmonica*	a C S M J W G, throughout park
Satin Flycatcher	*Myiagra cyanoleuca*	u C S M G
Rufous Fantail	*Rhipidura rufifrons*	u C S M W
Grey Fantail	*Rhipidura fuliginosa*	v C S M J W G, throughout park
Willie Wagtail	*Rhipidura leucophrys*	u, occasionally on coast and in Lorne.
Clamorous Reed-warbler	*Acrocephalus stentoreus*	*a A, some estuaries.*

Golden-headed Cisticola	*Cisticola exilis*	r J
Superb Fairy-wren	*Malurus cyaneus*	v C S M J W G, throughout park
Southern Emu-wren	*Stipiturus malachurus*	r J
Rufous Bristlebird	*Dasyornis broadbenti*	u M J, widespread in coastal scrub but also in tall open-forest at Mount Cowley where it appears to be rare.
White-browed Scrubwren	*Sericornis frontalis*	v C S M J W G, throughout park, nesting species.
Brown Thornbill	*Acanthiza pusilla*	v C S M J W G, throughout park, nesting species.
Striated Thornbill	*Acanthiza lineata*	a C S M J W G, throughout park
Yellow Thornbill	*Acanthiza nana*	r, only in *Acacia dealbata* near Benwerrin.
Yellow-rumped Thornbill	*Acanthiza chrysorrhoa*	u, farmland near Allanvale.
Varied Sittella	*Daphoenositta chrysoptera*	u C S M W
White-throated Treecreeper	*Climacteris leucophaea*	a C S M J W G, throughout park
Red Wattlebird	*Anthochaera carunculata*	a C S M J W G

Little Wattlebird	*Anthochaera chrysoptera*	a C S M G
Yellow-faced Honeyeater	*Lichenostomus chrysops*	a C S M J W G
White-eared Honeyeater	*Lichenostomus leucotis*	u C S M J W G
Singing Honeyeater	*Lichenostomus virescens*	a J, other coastal scrub.
Brown-headed Honeyeater	*Melithreptus brevirostris*	a C S M J W G, throughout park.
White-naped Honeyeater	*Melithreptus lunatus*	a C S M J W G, throughout park
Crescent Honeyeater	*Phylidonyris pyrrhoptera*	a C S M J W G, gullies throughout park.
New Holland Honeyeater	*Phylidonyris novaehollandiae*	a C S M J W G, throughout park
Eastern Spinebill	*Acanthorynchus tenuirostris*	u C S M J W G
White-fronted Chat	*Epthianura albifrons*	r J
Mistletoebird	*Dicaeum hirundinaceum*	u C S W G
Striated Pardalote	*Pardalotus striatus*	a C S M J W G, throughout park
Spotted Pardalote	*Pardalotus punctatus*	a C S M J W G, throughout park
Silvereye	*Zosterops lateralis*	*a C S M J W G*

European Goldfinch	*Carduelis carduelis*	r, farmland and Lorne, introduced.
European Greenfinch	*Carduelis chloris*	r, cypresses in Lorne, introduced.
House Sparrow	*Passer domesticus*	a, along coast and Lorne, introduced.
Red-browed Firetail	*Emblema temporalis*	a C S M J W G
Beautiful Firetail	*Emblema bella*	u J W
Common Starling	*Sturnus vulqaris*	a, along coast and towns, introduced.
Olive-backed Oriole	*Oriolus sagittatus*	r C S
Satin Bowerbird	*Ptilonorynchus violaceus*	u C M G
Australian Magpie-lark	*Grallina cyanoleuca*	u, farmland and towns.
Dusky Woodswallow	*Artamus cyanopterus*	u C S W
Australian Magpie	*Gymorhina tibicen*	a J, other coastal areas and towns.
Pied Currawong	*Strepera graculina*	a C S M J W G
Grey Currawong	*Strepera versicolor*	u S J W
Forest Raven	*Corvus tasmanicus*	a C S M J W G, throughout the park and towns.

Although this list does not represent a systematic survey of the birds of the Lorne Forest Park, it does represent the first published account dealing specifically with the park's birds. Bird observing, although frustrating at times in the wet dense Otways, is a worthwhile pastime in the Lorne area as the list shows.

This area of reserved forest is important to the survival of several species of birds in the Geelong Otway region. For example, the Lorne section of the Angahook-Lorne Forest Park is the only reserve in the district where all six local species of owl occur, and is the westernmost occurrence of the Sooty Owl (Conole in prep.). Mount Cowley is the only location where the Rufous Bristlebird occurs in montane tall open-forest, although it ventures up the lower reaches on some of the Otway watercourses (Blakers *et al* 1984). Grey River Scenic Reserve is one of the best known locations for Satin Bowerbird bowers in the Otways. The Peregrine Falcon has an eyrie at a well known coastal landmark despite visitor pressure in the area.

We encourage all readers to improve upon this list and to communicate with us about their observations.

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The Pied Currawong In Eastern Park, Geelong

Grant Baverstock

ON Tuesday, 4 September, 1984, I observed a Pied Currawong *(Strepera graculina)* in the Geelong Botanic Gardens.

The weather at the time (12.15 hrs) was mild, still, with clear blue skies, and I decided to bird watch during my lunch break. I noticed a large dark bird fly up from the path in the fern garden, where it had been feeding, and land in a Kurrajong *Brachychiton populneum* overhanging the lily pond. On closer inspection I realised to my surprise that it was a Pied Currawong.

Later that afternoon, and again on 7 September and 13 September I heard the characteristic call described by Pizzey (1980) as a loud falsetto "crik, crik, bewaiir", a call I have heard frequently in Highton over recent years.

I have seen and heard only one bird, which makes me believe this to be a solitary individual, that perhaps comes in and out of the park at times to feed, before moving out to surrounding districts.

Approximately two years ago I believe I heard the call of this species in the Park, but due to the distance of the call, and having heard it only once, I passed it off as a case of mistaken identity.

Morley (1983) records the Pied Currawong as "No longer recorded. Belcher recorded 7 or 8 birds visiting the Eastern Park in winter 1888". Although Baverstock (1984) records them as being sighted regularly in Highton, and they have been recorded in other areas of Geelong, I believed this to be the first positive sighting for many years in Eastern Park.

However, on talking with Ian Rogers, Superintendent of Parks and Gardens, I learnt that he has observed the Currawongs in the Park for the past three years off and on, displaying aggressive behaviour towards other birds, namely Australian Magpie and Galah.

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Little Tern *Sterna albifrons*

Fairy Tern *Sterna nereis*

Small Terns

Margaret Cameron

Both the very small terns occur in the Geelong area, and the Fairy Tern breeds here. These photographs, taken in March 1981, illustrate the differences. The Little Tern has a mid-yellow bill with a dark tip, and a black line through the lores. The Fairy Tern has a bright orange-yellow bill, and white lores with a black patch in front of the eye. The Little Tern is slender and the Fairy Tern is much bulkier.The Fairy Tern appears very white in flight, though both species have pale grey upperparts. In the Little Tern the pale grey upperwing contrasts with blackish outer 3 or 4 primaries. (See Simpson and Day: *Birds of Australia* (Melbourne, 1984) for more information, especially on non-breeding plumage.)

Margaret Cameron, 4 Connor Street, East Geelong, 3219.

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Brisbane Ranges National Park Excursion

18 March 1984

by Craig Morley

The Brisbane Ranges are a series of hills which stretch in a north-south direction from Bacchus Marsh to Maude. The National Park protects most of the ranges except that area used for water catchment. The eastern limit of the Park is clearly marked by the Rowsley Fault.

The ranges are composed of siltstones, sandstones, shales and slates with thin layers of gravel and sands. The uplifted and tightly folded basement rock from the Ordovician period (450 million years before present) is revealed in the deep gullies where creeks have cut through the Rowsley Fault. Little River and Stony Creek (in Anakie Gorge) are examples of where the Fault has been exposed.

During the Devonian Period (350 million years before present) molten material from deep within the earth penetrated the weakened and folded sedimentary rocks which produced gold mineralization.

In 1835, soon after the establishment of Melbourne, grazing leases were taken out over land which included a portion of the ranges, although grazing was concentrated on the richer soils around the ranges.

The discovery of traces of gold in the "Anakie Hills" in 1851 made the greatest impact on the area. In 1855 the discovery of the first of many reefs on the outskirts of Steiglitz led to greatly increased interest in the area. By May 1856 the population of the goldfield was 1000. The Courthouse which still stands today was built in 1875, but by this time the town of Steiglitz was already in decline. In 1879 only 100 remained.

A brief boom around 1894 re-kindled interest and the population of the town rose to 2000.

In 1941 the last mine, the Dreadnought, just south of the Park, closed.

In 1872 the equivalent of 3072 hectares of the Durdidwarrah Swamps was reserved for catchment purposes.

In 1875 the Upper and Lower Stony Creek reservoirs and a brick aqueduct between them were constructed.

On 15th August, 1973, 1132 hectares was declared as National Park.

On 26th April, 1979 additions recommended by the Land Conversation Council were accepted, increasing the park size to 7470 hectares.

On the 18th March, a warm and fine day, 30 members and friends enjoyed the morning walk through heath and wood land of Butcher's Road and an afternoon walk through Anakie Gorge from Anakie Gorge picnic ground to the Lower Stony Creek picnic ground.

Bird List

Craig Morley

Wedge-tailed Eagle *Aquila audax*	One pair seen over the Gorge, the female being noticeably larger than male.
Brown Falcon *Falco berigora*	A number of single birds seen over adjoining farmland.
Galah *Cacatua roseicapilla*	A flock of 16 in bare upper branches of tree on farmland adjoining the Gorge.
Sulphur-Crested Cockatoo *Cacatua galerita*	One seen at Lower Stony Creek picnic ground.
Crimson Rosella *Platycercus elegans*	Several flocks including immatures in both areas.
Shining Bronze-Cuckoo *Chrysococcyx lucidus*	One seen at Lower Stony Creek picnic ground.
Laughing Kookaburra *Dacelo novaeguineae*	Several seen and heard along Gorge.
Welcome Swallow *Hirundo neoxena*	Small flock over treetops off Butcher's Road.
Scarlet Robin *Petroica multicolor*	One female in Butcher's Road woodland and one male along Gorge.
Yellow Robin *Eopsaltria australis*	Several along Gorge.
Crested Shrike-tit *Falcunculus frontatus*	Two or three single birds in treetops along Gorge.
Golden Whistler *Pachycephala pectoralis*	Several heard in both areas and a male was noted feeding an immature bird in a low shrub along the Gorge.
Rufous Whistler *Pachycephala rufiventris*	Several seen and heard along Gorge.
Grey Shrike-thrush *Colluricincla harmonica*	Several heard in each area, including an immature off Butcher's Road which was heard uttering a particularly mellow, flutey call based on the normal "pip-pip hooee."
Grey Fantail *Rhipidura fuliginosa*	Several in both areas.
Superb Fairy-wren *Malurus cyaneus*	Common in both areas.
White-browed Scrubwren *Sericornis frontalis*	Several heard and seen in both areas.

Brown Thornbill *Acanthiza pusilla*	Present in small numbers in both areas. In one section of the Gorge, the Brown, Buff-rumped, Yellow and Striated species could all be heard calling while foraging.
Buff-rumped Thornbill *Acanthiza reguloides*	Showing a distinct preference for stringybarks in both areas.
Yellow-rumped Thornbill *Acanthiza chrysorrhoa*	A small party seen feeding on ground in the Gorge picnic ground.
Yellow Thornbill *Acanthiza nana*	Frequently heard in both areas.
Striated Thornbill *Acanthiza lineata*	Several heard in both areas.
Varied Sittella *Daphoenositta chrysoptera*	A loose flock of approximately 8 in woodland off Butcher's Road.
White-throated Treecreeper *Climacteris leucophaea*	Noted in both areas.
Brown Treecreeper *Climacteris picumnus*	Several seen at Lower Stony Creek picnic ground.
Red Wattlebird *Anthochaera carunculata*	Heard and seen around Anakie Gorge picnic ground and along Gorge.
Yellow-faced Honeyeater *Lichenostomus chrysops*	Small number heard and seen along the Gorge.
White-eared Honeyeater *Lichenostomus leucotis*	Heard along Gorge.
Yellow-tufted Honeyeater *Lichenostomus cassidix*	Heard and seen at Lower Stony Creek picnic ground.
Brown-headed Honeyeater *Melithreptus brevirostris*	One heard and seen in treetops in Gorge.
White-naped Honeyeater *Melithreptus lunatus*	Several along Gorge.
New Holland Honeyeater *Phylidonyris novaehollandiae*	Common and vocal in both areas.
Spotted Pardalote *Pardalotus punctatus*	Frequently heard in treetops along Gorge.
Striated Pardalote *Pardalotus striatus*	Several heard along Gorge.
Red-browed Firetail *Emblema temporalis*	A party of 10-12 in Gorge including at least 4 immatures.
Dusky Woodswallow *Artamus cyanopterus*	A small party of approximately 6 over treetops of Butcher's Road.
Magpie-lark *Grallina cyanoleuca*	Several small parties on adjoining farmland.

Grey Currawong *Strepera versicolor*	A small number heard and seen, particularly in woodland off Butcher's Road.
Australian Magpie *Gymnorhina tibicen*	Several small parties noted in and over open woodland off Butcher's Road.

Plant List

Leila Ramsey

Butcher's Road Area

Acacia mearnsii	Black Wattle
Acacia mitchellii	Mitchell's Wattle
Acacia myrtifolia	Myrtle Wattle
Acrotriche serrulata	Honey Pods Heath
Amyema pendulum	Drooping Mistletoe
Astroloma humifusum	Cranberry Heath
Banksia marginata	Silver Banksia
Burchardia umbellata	Milk Maids
Cassytha glabella	Slender or Tangled Dodder
Correa reflexa	Common Correa
Cryptandra tomentosa	Prickly Cryptandra
Dianella revoluta	Black-anther Flax-lily
Dichondra repens	Kidney-weed
Epacris impressa	Common Heath
Eucalyptus goniocalyx	Long-leaf Box
Eucalyptus obliqua	Messmate Stringbark
Eucalyptus vinimalis	Manna Gum
Gonocarpus tetragynus	Common Raspwort
Grevillea chrysophaea	Golden Grevillea
Hakea sericea	Silky Hakea
Helichrysum scorpioides	Button Everlasting
Hibbertia stricta	Erect Guinea-flower
Hypericum gramineum	Small St. John's Wort
Isopogon ceratophyllus	Horny Cone Bush
Lepidosperma semiteres	Wire Rapier-sedge
Leptospermum juniperina	Prickly Tea-tree
Leptospermum myrsinoides	Silky Tea-tree
Leucopogon virgatus	Common Beard-heath
Lomandra filiformis	Wattle Mat-rush
Monotoca scoparia	Prickly Broom-heath
Platysace heterophylla	Slender Platysace
Platylobium obtusangulum	Common Flat-pea
Pultenaea humilis	Dwarf Bush-pea

Spyridium parvifolium	Australian Dusty Miller
Wahlenbergia stricta	Tall Bluebell
Xanthorrhoea australis	Austral Grass-tree

Anakie Gorge Area

Acaena anserinifolia	Bidgee-widgee
Acacia mearnsii	Black Wattle
Acacia pyncnantha	Golden Wattle
Acacia verticillata	Prickly Moses
Adiantum aetheopicum	Common Maiden-hair Fern
Anagallis arvensis	Scarlet Pimpernel
Blechnum nudum	Fish-bone Fern
Bursaria spinosa	Sweet Bursaria
Cassinia aculeata	Common Dogwood
Cheilanthes tenuifolia	Rock Fern
Cynoglossum suaveolens	Sweet Hound's-tongue
Dianella revoluta	Black-anther Flax-lily
Eucalyptus goniocalyx	Long-leaf Box
Eucalyptus sideroxylon	Ironbark
Eucalyptus viminalis	Manna Gum
Exocarpos cupressiformis	Cherry Ballart
Gonocarpus tetragynus	Common Raspwort
Hymenanthera dentata	Tree Violet
Juncus holoschoenus	Joint Leaf-rush
Leptospermum lanigera	Woolly Tea-tree
Pelargonium rodneyanum	Magenta Stork's-bill
Pomaderris sp.	
Pteridium exulentum	Austral Bracken
Wahlenbergia communis	Tufted Bluebell

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C. Morley, 22 Fairmont Street, Newtown, 3220.

Hour Count No. 48 – Hattah-Kulkyne National Park

Roy Wheeler

The Hattah Lakes National Park is one of the most popular in the north-west of the State, particularly when the lakes have water. When the Murray River is high or in flood the water flows down the Chalka Creek which in turn fills a number of lakes, first Lake Lockie, then Yerang, Yelwell, Konardin and Lake Mournpool and at times Bitterang. The other system includes Lake Hattah, Little Hood, Brockie, Bulla and Arawak. At the end of the flooding the water recedes back into the Murray, but a bank has been built to retain water in Hattah for a longer period. The lakes filled in spring 1981 (August and October) and it was at that time Henry Hobson and I visited the area. The lovely old red gums circle the lakes and on the the nearby sandhills the black box predominates. Bird life was most prolific and we did an hour count. During the count we watched about 100 Black Cormorants catch a thermal which took them out of binocular range. A darter which was with them when they took off was hopelessly left behind. His few beats and a glide left him miles behind the high flying cormorants. Away from the lakes the mallee vegetation grows and in the spring is full of wild flowers, with the egg and bacon daisy blooming most profusely. In 1944 I was at the lakes and after a long walk of over 40 miles my friend and I visited the pump house on Lake Hattah where water was pumped to the Hattah Railway Station for the engines on the Melbourne to Mildura railway, and old Scotty was in charge. All he could offer us was black tea and some bread. We slept the night on the sand in front of his hut and continued back to our camp before daylight. This area was once the home of the Latjilatji tribe of about 50 strong in the 1860's, but the tribe dwindled until the last survivor, Mary Woorlong, died in Mildura in 1942. Aboriginal canoe trees can still be found in the area and they should be preserved at all costs. Aboriginal middens are still to be seen around the lakes, and occasionally parts of their skeletons are found in the sand hills. The Park was created in 1960, and the Kulkyne section added rather recently. In 1951 the R.A.O.U. had their 50th anniversary camp at Hattah Lakes and the B.O.C. has camped there over the years. All camps were most successful, and a splendid bird list has been compiled.

Hattah-Kulkyne National Park

Lake Hattah: At Regulator between Lake Hattah and Little Hattah. March 4th, 1982. 1 p.m.-2 p.m. Fine warm and sunny with east breeze. Lake filled in October 1981. Conditions best I have seen at Hattah.

Roy Wheeler and Ray Hobson.

Birds in order of sighting:
Willie Wagtail, 6; Raven, 10; Red-rumped Parrot, 24; Black-backed Magpie, 8; Magpie Lark, 13; Galah, 25; Welcome Swallow, 6; Great Crested Grebe, 4; Hoary-headed Grebe, 2; Black Cormorant, 100; Darter, 1; Spurwinged Plover, 10; Pelican, 4; Pink Cockatoo, 3; Noisy Miner, 30; White Cockatoo, 2; Kookaburra, 3; White-winged Chough, 5; Grey Teal, 32; Black-tailed Native Hen, 16; Black-fronted Dotterel, 6; Yellow-billed Spoonbill, 2; White-faced Heron, 2; White Egret, 1; Whistling Kite, 1; Coot, 2; Rainbow-bird, 20; Yellow Rosella, 3; Striated Pardalote, 6; White-necked Heron, 1; Royal Spoonbill, 4; White-plumed Honeyeater, 6; White Ibis, 1; Brown Treecreeper, 4; Restless Flycatcher, 2; Rufous Whistler, 1; Emu, 3; Pied Cormorant, 1; Spiny-cheeked Honeyeater, 1; Grey Thrush, 1.

40 species and 382 individuals.

Roy Wheeler, 59A Upton Road, Windsor, Vic., 3181.

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Editorial

Once again terrible fires have devastated our bushland; once again, to the tragic death and suffering of human beings and domestic animals, is added to the death, suffering, and, for many, later starvation, of native birds and animals. The You Yangs Forest Park is a grim sight, with its blackened trees, scorched foliage, and bare burnt slopes and rocks. Among the remaining patches of living trees are those planted by the Geelong Field Naturalists Club on the Saddle, which will hopefully provide some shelter and food for surviving birds. Nature is resilient, and the Otway country is green and leafy again, though it will be many years before it is back to its pre-fire state. Now the You Yangs fire emphasizes again how important it is that really big areas of bush are preserved for wildlife, as a refuge and a reservoir from which devastated areas can be recolonized.

Are all habitat types adequately represented in the parks and reserves in our area? Are appropriate corridors of roadside vegetation planned for retention or development? What about water supplies for animals – many water sources are vulnerable to drought or the aftermath of wildfire? The scattering of houses (with their domestic pets and exotic weeds) on bush blocks, and continued clearing, suggests a sad future for many birds and animals.

Margaret Cameron.

Lord of the Marsh

Valda Dedman

A frog found on the Club excursion to the Inverleigh Common on 16 September 1984, was identified as *Limnodynastes dumerili,* one of the Bullfrogs. *Limnodynastes* means "lord of the marsh", but this frog was found on a sandy track. It was very torpid so we were able to examine it closely.

It was a stout, squat frog, some 60mm long, and strikingly marked. Its rounded head ended in a broad snout and its dark protruding eyes were encircled with bronze. Its back was warty and browny-olive in colour. An almost iridescent bronze stripe ran along its side and another went from just behind the eyes to the angle of the wide jaw. Below the lateral stripe its colour was black. The ventral skin was smooth, varying in colour from pale cream at the throat to a sulphur/lime green at the rear end and mottled finely all over with grey. The pale undersides of the legs were also finely spotted with grey.

Altogether it was a handsome creature, yet it was not body markings alone which identified it but the large oval raised gland on the outer surface of each calf. These glands are curious structures holding a poisonous secretion in a series of compartments each of which connects to the outside by a narrow duct. Many frogs have glands which hold toxic substances but only the Bullfrogs have them on the tibia. It is not known if this gland secretion is poisonous to man, but after handling the frog I did notice a bitter taste on my skin.

The bullfrog was most inactive and easily held; nevertheless it blew itself up considerably, and the black colour on its sides turned to an astonishing inky navy-blue.

The frog had but the slightest of webs on its feet and not at all on its hands; the second toe was very long, and there was the suggestion of a pad at the end of the toes.

All *Limnodynastes* species lay their eggs in nests of foam. During amplexus (sexual embrace) the male grips the female firmly and her limbs are quite free. She produces spawn foam by paddling the water backwards to where her eggs are being laid so that the jelly surrounding them becomes light and like beaten egg white with trapped air bubbles. She paddles with special flanges which develop on her finger edges during the breeding season. We noticed no such flanges on our specimen, so it was either a male or a non-breeding female.

The frothy white egg mass floats like detergent on the surface of the water, attaching itself to stems of water plants and such like. The clumps may be very large and very slippery as one finds if one tries to collect some. We saw such foam patches on Millwood Dam in the Bendigo Whipstick at the September 1983 campout. These were probably the eggs of *L. peroni,* a related species, which does not occur in the Geelong district.

There are several species of frog known as Bullfrog or Pobblebonk on account of the male chorus of separate "bonk" calls. One male starts and others follow in quick succession so that the total effect is of a series of rapid staccato bursts. Bullfrogs may be heard calling both in the daytime and at night.

L. dumerili is also known to burrow. It goes backwards into the soil, digging with each foot in turn and gradually sliding its rear end into the hole so made. There is a spade like tubercle on the edge of the foot, a special adaptation for digging.

I would like to thank Catherine Secun for helping to hold and describe the frog found at the Inverleigh Common.

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A Bell Miner in Bacchus Marsh

Marilyn Hewish

On 25 May, 1984, I heard the unmistakable and persistent 'tink' call of a Bell Miner *(Manorina melanophrys)* while I was walking in the grounds of the Bacchus Marsh hospital. There seemed to be a single bird calling, and I failed to locate it during a 20 minute search. On subsequent visits to the hospital on 1 June and 8 June. I again heard it, but was unable to make a proper search. Finally, aided by precise directions from Bob Reid of Bacchus Marsh, Royce Borgelt and I obtained clear views from three metres, of a single Bell Miner in Bob Reid's garden opposite the hospital.

The following account of the bird's stay in Bacchus Marsh has been compiled from my own observations and from those of Bob Reid and his neighbours.

The bird arrived in Bacchus Marsh on 3 April, 1984, a few days after a storm with gale-force easterly winds. It was first detected by its continual calling. Bob Reid identified it from a field guide, but not being an experienced bird-watcher, did not realize that it was unusual for the area. It was an adult bird, recognized by the red patch of skin behind the eye.

From the beginning it lived in a red ironbark *(Eucalyptus sideroxylon)* about 12 metres tall in the front garden of 40 Grant St. This tree was set in the angle of a high fence, and was flanked by cotoneaster and jacaranda trees. Around and below it was a dense and tangled understory of Banksia, Melaleuca, Grevillea and exotic Hibiscus shrubs. The Bell Miner was almost always found in this tree, mostly in the lower half, although it occasionally visited nearby trees and bushes especially a Pittosporum in the next garden.

If the bird had not been calling, it would have been unobtrusive when feeding, as it mostly remained within the foliage and in shadow. It fed in typical honeyeater fashion, crawling and hopping through the foliage, and occasionally hanging upside down. It gleaned from the leaf surface with its bill, probably feeding on the numerous lerps and psyllid nymphs, the favoured diet of Bell Miners (Paton, 1980). During the first two months of its stay, its home tree flowered at the crown, but it was never observed feeding on the nectar.

The nearest flowing water to the bird's territory was the Werribee River 400 metres away. Surface water was available close by, however, in a swimming pool and buckets of water placed around its home garden. It was never observed drinking, but it was once seen bathing under a lawn sprinkler.

The bird was very aggressive. It ignored traffic and passersby on the busy road adjoinging the garden, but a close and stationary observer soon evoked harsh, scolding calls and eventually confrontation, with the bird approaching to within a few metres. When its tree flowered, it continually scolded and chased feeding New Holland and White-naped Honeyeaters, and it was particularly aggressive towards Blackbirds visiting the adjacent cotoneaster. Eastern Spinebills visiting the Grevillea and Banksia shrubs were also attacked. When chasing other birds it did not usually venture beyond ten metres from its tree, and it returned immediately when the intruder retreated beyond this limit. Its success in excluding other birds from the tree was limited, however. Occasionally honeyeaters fed unmolested, probably because a single Bell Miner could not detect, or defend against, all intruders.

Until early August the bird was recorded daily from its tree, but after this it began to wander, being recorded more often in neighbours' gardens. It called less often, mostly in the early morning and evening.

After 22 August it was not recorded, and we thought that it had left the area. On 24 September, a Bell Miner call was heard in Pilmer St., two hundred metres from Bob Reid's garden, and on 26 September, a Bell Miner, assumed to be the original bird, returned to the home tree, 5 weeks after its departure. It stayed for 6 days, wandering around surrounding gardens, and was last recorded on 1 October.

The normal distribution of the Bell Miner is along coastal south-eastern Australia, from the eastern suburbs of Melbourne to southern Queensland (Blakers et al., 1984). The last colonies recorded west of Melbourne were near Mordialloc and along the Werribee River in the 1840's (Campbell, 1901), and along Jackson's Creek, Sunbury in the 1850's (Batey, 1907). The only record west of Melbourne this century is a sighting by T.R. Garnett of two birds drinking at a pool in the Lerderderg Gorge in March, 1967 (Blakers et al., 1984).

Bell Miners normally live in colonies. However, this bird, 50 km outside the normal range, must have been lost, probably blown by high winds, and would be expected to be alone. For at least 5 months, it made no attempt to return to its home territory. This observation confirms a previous finding, in which Bell Miners mist-netted and released 45 km away, did not return (Loyn et al., 1983).

A Victorian Ornithological Research Group (V.O.R.G.) study of Bell Miners' adaptation to suburban habitats in Melbourne has shown that they require eucalypts for feeding and native or exotic undergrowth for roosting and nesting. Although most colonies are near flowing water, swimming pools or bird-baths may suffice as sources of surface water. A colony occupies a limited area, and moves its territory slowly if at all (McCulloch & Noelker, 1971). The colony members are extremely aggressive, and exclude other birds from the colony area (Smith & Robertson, 1978).

This single bird's habitat and behaviour reflected those of a colony. Its home territory was a small area around a single eucalypt and the undergrowth below it, and it remained there for 5 months.

It was very aggressive towards other birds. Its defended territory was a 10 metre radius circle around its home tree, and it extended from the tree crown to the undergrowth. In contrast, one study has reported colony members chasing other bird species for up to 100 metres, probably because a colony occupies and shares defence of a greater area (Smith & Robertson, 1978). These workers reported that Blackbirds were rarley attacked, as they kept to the understory. Blackbirds were a common target for the Bacchus Marsh bird, because they were at its feeding height in an adjacent tree. Perhaps because of its limited success in defending its territory, the tree showed no sign of insect-infestation dieback, which can result from Bell Miner colonies excluding other insect-eating birds (Loyn et al., 1983).

There was no obvious reason for the departure of Bell Miners from western areas in the 1850's. A.J. Campbell (1901) wrote, "The birds were never destroyed, yet they mysteriously disappeared–." Colonies within the present range may decrease in numbers or depart suddenly without discernible habitat change, and areas of apparently suitable habitat may be unoccupied (McCulloch & Noelker, 1971). Obviously, the factors affecting Bell Miner distribution and movements are poorly understood. Given this bird's survival in Bacchus Marsh for six months, it seems that its food and shelter needs were met, and that the climate was suitable for at least part of the year. 130 years after the Bell Miners' departure, their absence from this area, especially the extensive forests to the north of the town, remains unexplained.

Footnote

Six weeks after the Bell Miner was last recorded in Bacchus Marsh, Lawrie Conole recorded a Bell Miner in the Stony Creek picnic area in the Brisbane Ranges, on 10 November, 6.30 p.m. He detected it by its persistent calling, and obtained a sighting of a single bird in the eucalypt canopy. Considering the rarity of the species west of Melbourne, it is possible that it was the Bacchus Marsh bird.

Acknowledgments

Bob Reid, Stan and Judy Douglas, Warne Davey, Royce Borgelt and Lawrie Conole kindly allowed the use of their observations.

I would like to thank the Royal Australasian Ornithologists' Union (R.A.O.U.) for access to their records for the *Atlas of Australian Birds* and the Historical Atlas.

Marilyn Hewish, 74 Wellington Street, Bacchus Marsh, 3340.

Red Wattlebirds Eating Meat

Harry Kroger

During January two adult and one juvenile Red Wattlebird were frequent visitors in our back garden in Belmont, where a eucalypt and a callistemon in flower, and ripening apricots, provided a variety of food.

When first noticed, the juvenile still had down on the body, did not show any breast colour and had a very short tail. It called continually for food. During this time, there were up to a dozen Magpies in the vicinity, some of which became accustomed to come during the day for a handout of meat.

Whilst we were feeding the Magpies, one adult Red Wattlebird flew down to pick up meat, but was chased by a Magpie to a nearby shrub before it was able to obtain the meat. Small pieces of meat were thrown nearby, and the Red Wattlebird, when the Magpies were feeding a short distance away, quickly flew down and took one small piece of meat. This it fed to the juvenile bird perched nearby. Meat was taken by the Wattlebird two or three times a day for a period of about two weeks. On each occasion a small piece of meat was taken, and either swallowed or carried away in its beak to feed to the juvenile bird.

Mr. Trevor Pescott, who also lives in Belmont, has observed Red Wattlebirds taking meat when magpies were being fed.

H. Kroger, 102 Roslyn Road, Belmont, 3216.

More Wrinkled Buttons *Leptorynchos gatesii* in the Angahook-Lorne Forest Park

Lawrie Conole

This note reports further records of Wrinkled Buttons *Leptorynchos gatesii* (Williamson, 1922) near the type locality, Angahook-Lorne Forest Park, Victoria.

Whilst walking from Sheoaks Picnic Area to Phantom Falls via Henderson Falls and the Canyon in the Angahook-Lorne Forest Park in late December 1984, my attention was drawn by a small shrubby yellow flowering daisy. The plant was abundant on bare, hard ground in *Eucalyptus globulus* tall open-forest burnt about two years previously. Noting the similarity of the plant to the rare recently rediscovered Wrinkled Buttons *Leptorynchos gatesii,* I collected a plant for identification. Staff at the National Herbarium verified the identification of the plant as *L. gatesii.*

When Williamson (1922) described *L. gatesii* (as a *Helichrysum),* he remarked that the type specimen was collected by the Rev. A.C.F. Gates from hard, dry ground on hillsides at Lorne on December 7, 1921. The plant flowered between December and April, and he also remarked that he thought it strange that the species was undescribed because it was abundant at the type locality. This apparent anomaly and the plant's subsequent rarity can perhaps be best explained by the hypothesis that *L. gatesii* is a post fire colonist, and only reaches abundant status after a forest fire. Presumably a fire in 1920 or 1921 preceded the initial discovery of the plant.

Until White (1984) rediscovered *L. gatesii* at Eastern View in June 1984, the species was thought to be extinct – not having been seen since description in 1922. *L. gatesii* is endemic to the eastern Otway coastal forest, and forms extensive stands on burnt forest hillsides one to two years after the fire. As to whether it disappears entirely between fires and relies upon seed for survival, or whether it survives in undetectably low densities is unknown to me.

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Jack Wheeler

Jack Wheeler, who died in October 1984 at the age of seventy-five, was a foundation member of the Geelong Field Naturalists Club, and one of the best-known and most popular naturalists of our area. One of the Rats of Toobruk, recognized locally for many services to the community, Jack was honoured nationally by the British Empire Medal, the Natural History Medallion, and an Advance Australia Award. This is our opportunity to pay tribute to his service to conservation and natural history in our region, and to express our sympathy to his family. In particular, Jack was a Club committee member for some 15 years, and President from 1965-1971.

Although Jack was an active contributor to so many aspects of conservation, his great particular contribution to the cause of the protection of our wildlife and their habitat was his work and inspiration in developing caring and protective attitudes in young people, and the education of children and of the wider community. As a result of his work with schools, for many school children in the Geelong region, and for many adults who are now the parents of school children themselves, Jack Wheeler was the embodiment of the field naturalist. A lover of birds, animals, insects and plants, he was always prepared to share his knowledge, pleasure and enthusiasm with others, especially with children. In fact, through the distribution of his booklet *The care of sick, injured and orphaned native birds and animals* to schools and clubs, he shared his concern and his practical advice with young readers all over Australia. Jack addressed schools, and guided many school groups in the field. In later years, often with assistance from Owen Andrews, he helped many youngsters to enjoy, appreciate, and learn from the Ocean Grove Nature Reserve. Children felt that they had a share in the recovery of the injured koalas cared for in the Reserve. His contribution to the Reserve was recognized by the naming of the waterfowl habitat in his honour.

For more than twenty years, Jack contributed Nature Notes to the *Ballarat Courier,* increasing public knowledge of natural history and raising community awareness of conservation issues. His published works include *Birds of the Ballarat district* (with Roger Thomas), and numerous articles and papers in popular scientific journals, reporting his observations and research on birds and animals. The list of his studies and projects is long, including

- breeding of Australasian Gannets at Wedge Light in Port Phillip Bay
- White-faced Storm-Petrels in Port Phillip Bay
- breeding of Fairy Terns in the Geelong area
- banding over 4000 Short-tailed Shearwaters
- banding 870 Black Swans
- the life history of the Blue-billed Duck
- the breeding of Silver Gulls at Lake Goldsmith (Beaufort) and banding 1200 chicks
- the status of the Masked and Banded Lapwings on the Bellarine Peninsula, and banding some 600 chicks
- mammals of the Ballarat region
- counts of bird populations of local lakes, and other census projects

In these projects, and in his other observations of natural history, Jack kept careful and detailed notes, to ensure that his information could be accurately preserved and transmitted to others.

Recognizing the importance of sharing and learning together, Jack supported by membership and active participation, many natural history, bird and conservation societies. His activity took many forms–tree planting, helping with a night watch to protect a stranded elephant seal, speaking at different clubs (usualy several times a year), holding club office. Jack felt deeply the urgent need for preservation of dwindling areas of natural habitat, and wrote many letters and submissions on such areas as Lake Connewarre and Reedy Lake, Edwards Point, and especially Mt. Cole at Beaufort.

As a relative newcomer to Geelong, my recollections of Jack Wheeler are briefer and fewer than those of many other Club members, but they are nonetheless vivid. I went with Jack on one of his last visits to Wedge Light, when he leapt with dazzling agility from the tossing boat to the fragile-looking ladder, and on the narrow and slippery platform quickly caught and banded the young gannets, avoiding their fierce sharp bills. I remember his pleasure in letting children help feed Wilbur the Wedgetailed Eagle, and his sadness when it proved impossible to keep the huge bird. His last birdwatching day was, characteristically, for someone else's benefit – to show interstate visitors the Powerful Owl and Orange-bellied Parrots, and he enjoyed Harry Dunn's beautiful garden, and good telescope views of Red-kneed Dotterels. The outsider is perhaps in a better position to appreciate the special qualities that make a person noteworthy – in Jack's case he loved people, especially young people, and he loved birds and animals, and the whole natural world. His special contribution was his ability to share his love and knowledge of nature, and to inspire in others the desire to learn about the natural world and to work for the preservation of our wildlife and their environment. His influence and his inspiration are his memorial.

Margaret Cameron.

Otways Regeneration Survey
Third Progress Report

Valda Dedman

The first half of the second year after the fires has seen steady growth in all our Moggs Creek survey areas – creekside, hillside, heathland and woodland/swamp. The weather has been favourable to regrowth, generally moist and cool, with no great extremes. The hillside has shown least groundcover regeneration (more runoff?), and some species, such as the Rasp Fern, have not returned. Near the creek, however, the vegetation is dense, acacias have grown prolifically, especially the Prickly Moses. *(A. verticillata)* which in places now forms dense thickets. Both Prickly Moses and Varnish Wattle *(A. verniciflua)* flowered in September. There are nice stands of Blackwood *(A. melanoxylon)* close to the creek upstream from the road bridge.

Some of the eucalypts have been through a complete flowering cycle on epicormic growth, have produced seed capsules and gone on to making new spring growth. These trees have flourished in spite of infestations of catepillars and sawfly larvae which stripped many branchlets almost completely bare, particularly on Blue Gums *(Eucalyptus globulus)*.

In spring, too, many of the understorey shrubs and groundcover plants were in bloom. So we saw the purple Austral Indigo *(indigofera australis)*, Love creeper *(Comesperma volubile)*, Common Hovea *(H. heterophylla)*, Kangaroo Apple *(Solanum lacinatum)*, Cutleaf Daisy *(Brachycome sp.)* and Native Violet *(Viola hederacea)*; the gold of Goodenias, Wattle Mat Rush *(Lomandra filiformis)* and Wallflower Orchids *(Diuris longifolia)*; and Dusty Miller *(Spyridium parvifolium)*, Tall Sundew *(Drosera auriculata)* and Tall Greenhoods *(Pterostylis longifolia)* were also in flower. The tree ferns were putting out new fronds, ferns such as Maidenhair and Fishbone lined the creek banks and the bracken on the flat was shoulder high. Grasses and weeds such as thistles provided much grass cover. There is also an unwelcome infestation of Dolicus, a most vigorous creeper with attractive mauve or white pea flowers, which threatens to smother vegetation along the creek near the road bridge. Control measures must be taken to stop this introduced pest from killing the native vegetation.

With the wetter conditions fungi became more abundant. We noted a white gilled variety with a cream or tan cap about 10cm across, and the same white encrusting fungus that appeared soon after the fire grew again in damp patches. Othe fungi included the frilled *Thelypora palmata,* tiny yellow toadstools, club fungus and bracket fungus.

The woodland area further along Old Coach Road, together with its associated swamp, is also recovering well. By September the Prickly Teatrees were more than a metre high. Sedges *(Gahnia sp.),* with their dark brown flowerheads, dominated visually.

On the heathland some of the Banksias *(B. marginata)* flowered when only 45cm. tall. Dwarf Sheoaks *(Casuarina pusilla)* have produced both male and female flowers and Sweet Wattles *(Acacia suaveolens)* only 30cm high had seed pods by mid-September. In October the many Silky Teatrees *(Leptospermum myrsinoides)* were a mass of white flowers. Running Postman, Black-eyed Susan, Riceflowers, Milkmaids, Everlastings, Beard Heath, Candles, Sundews, Flat-peas and other typical heathland flowers produced a tapestry of colour. The orchids flowering have been a different mix from the previous year: no Banded Greenhoods, no Blue Fairies, no Hare Orchids, but far more Wallflower Orchids and Waxlips and fine specimens of Greencomb Spiders.

The Grasstrees did not flower in 1984, but have gone on to produce masses of seeds, many of which have been eaten. At one stage we found a toffee-like mass at the base of the spikes, and it looked inviting even to humans, although I imagine it was seeds set in resin. Paul Moore reported in February that Yellow-tailed Black Cockatoos had been seen feeding on Grasstree seeds; in that month a flock of twenty birds was seen in the area.

The Yellow-tailed Black Cockatoo was one of 15 new bird species recorded between February and October 1984. The total number of species since the fire is now 55. The larger birds have tended to appear dominant although in fact more and more smaller species have been recorded, but not consistently, each month. The most common both in numbers and frequency has been the Crimson Rosella, and usually juveniles have been in the flock. Red Wattlebirds and Pied Currawongs have been consistently seen this year. A flock of 12 Red Wattlebirds was seen in the first month after the fire, again in late May 1983, and then sporadically until January of this year; they have been recorded every month since. Pied Currawongs were not heard until late May 1983, and have now been recorded more often than the Wattlebirds. Grey Shrike-thrush was first recorded in August 1983, again at the end of October that year and nearly every month since January 1984.

Sulphur-crested Cockatoo, Kookaburra and Little Raven have all featured this winter and spring. Magpies were seen foraging around the picnic tables. Occasionally Gang Gangs and King Parrots were seen.

As spring approached Fantailed Cuckoos were often heard calling, and to a lesser extent, Pallid and Horsfield Bronze Cuckoos. Of the smaller birds, Grey Fantails, Brown Thornbills, Striated Pardalote and Superb Fairy Wren may all be resident. Honeyeaters, such as Eastern Spinebill, Crescent and White-naped probably pass through. Additions to the bird list in recent months include Golden Whistler, Boobook, and Tawny Frogmouth.

We have recorded most of these species from the forest areas or near the creek; although the Welcome Swallow is usually seen, few other species are seen over the heathland. A swallow's nest with two eggs was also found at Tallawalla guide camp.

It is hoped some members of our Bird Study Group will be able to make some systematic and more detailed surveys during 1985.

Mammal surveys have been made fairly regularly and results reflected the widespread mouse plague. Sometimes every trap had been touched in some way; either an animal had been caught, the bait had disappeared or there were mouse dropping present. Once we caught two House Mice in the one (wire) trap. We caught House Mice in approximately one third of the traps from April to August. We also caught several Black Rats, and were pleased to catch some Bush Rats, including one juvenile (in April). We hopefully put out a honey trail and set a wire trap on a low branch near the former Yellow-bellied Glider tree, but caught nothing.

We have identified three species of frog by their calls – *Crinia signifera, Litoria ewingi* and *Geocrinia victoriana,* and in April an eel was caught in the dam opposite the guide camp entrance.

The only mollusc found to date is a snail discovered under a sandstone boulder near the first waterfall upstream from the picnic area. It was sent to the Museum for identification and proved to be *Chloritobadistes victoriae.*

Insects have included many mosquitoes, a Longhorned grasshopper on the heathland, ants (busy out foraging on a warm sunny October day), and shiny black millipedes in the sandy soil.

Orb-weaving spiders were abundant in autumn, and in August, Dave King saw a handsome male Wolf Spider *(Lycosidae sp.).* These live in holes in the ground and the presence of many holes could indicate a substantial population.

Next year we hope to make less frequent visits, but observe in greater depth. With groundcover established, the understorey shrubs reaching medium height and the larger trees maybe reverting to a more normal pattern of leaf growth, we expect further changes in bird and animal populations, which we will monitor with great interest.

Valda Dedman, 69 North Valley Road, Highton, 3216.

Otways Regeneration Survey Botany Group Report

Ted Errey

Two plots were pegged out along the Old Coach Road at Moggs Creek in June, 1983. They were examined several times in the twelve months following the Ash Wednesday fire, and were again inspected on 17 October, 1984. At that time little evidence of the fire remained. The two quadrats, each 10 metres x 2 metres, had been set out in different terrain. Plot 1 is a flat area on deep sand between the road and a water-course running parallel. Plot 2 is on open heathland with a north-facing slope. This is less sandy and contains more clay. These factors, and the northerly aspect, mean that the soil of Plot 2 is much harder and drier than that of Plot 1.

Plot 1

In consequence of these differences, the vegetation on the first plot was far denser and taller. In fact, ground cover was almost 100% on the sandy, moist quadrat, and barely 50% on the hillside. Messmate regrowth had reached three to four metres in height. The Tea-trees – Silky and Prickly –, Sedges, Flat-pea, Apple-berry, Banksia etc. had developed a tangle of vegetation which, with the lesser plants beneath, including Slender Dodder-laurel, almost completely obscured the soil.

Plot 2

The heathland vegetation will take longer to develop full ground cover because of the less vigorous type of plant growing there. After some years the woody species (Silky Tea-tree, Dwarf She-oak, Silver Banksia and Sweet Wattle) can be expected to develop a protective framework, under and through which the more slender species can establish and increase.

Species in Flower

At the time of the October visit six species were in flower in both plots. These were Silky Tea-tree, Common Flat-pea, Blunt Everlasting, Milkmaids, Dwarf Rice-flower and Heath Xanthosia. Also flowering in Plot 1 were Prickly Tea-tree, Spreading Wattle, Leafless Globe-pea, Broom Spurge and Common Appleberry. On the higher ground of Plot 2 a wider range of plants was at the flowering stage. Monocotyledons included Spear Grass, Tassel Rope-rush and Thatch Saw-sedge. Dotted Sun-orchid bloomed just outside the quadrat. Of the dicotyledons, Blue-spike Milkwort, Bent Goodenia and Erect Guinea-flower were very showy. Additional color was provided by Common Beard-heath and Dwarf She-oak.

It is interesting to note that so far no exotic plants have been listed for either of these plots. Close watch will be kept to see how long this state of affairs continues. As one end of Plot 1 is only a metre from the edge of the gravel road, one would expect introductions to appear there first, the other quadrat being about 100 metres from the road.

To date, approximately 30 species of plants have been listed for each of the quadrats. At first, listing of small herbs was done only in a square metre at one end of each plot. As this area became overgrown, especially in the damper plot, this became rather difficult, and the lists appeared to be not truly representative of the entire plots. During subsequent visits, it is intended to list all plants over the entire 10 x 2 metres to give a more complete picture, and enable a better comparison of the two sites to be made.

E.G. Errey, 3 Leonard Street, Belmont, 3216.

A White-fronted Honeyeater in Lara

Geoff Gayner

On 15 August 1981, a White-fronted Honeyeater *Phylidonyris albifrons* was observed at Lara, approximately 3.5 kilometres south of the You Yangs, on a 2.2 hectare block with a small number of trees, which was formerly grazing land. It was 16.30 hours on a cloudy Saturday afternoon, and the weather was fine with a south-westerly wind blowing 10-15 kts. The temperature was 10 degrees celsius.

The call was the first indication of a stranger at Lot 80. I did not remember the call at first, but it was one I had heard while in the Mallee and Wimmera. I saw the bird perched in the upper branches of the willow at first, it then flew into the *Eucalyptus woodwardi* and commenced feeding on the blossom for about 5-10 minutes. It was then chased out by a White-plumed Honeyeater into the *Eucalyptus cladocalyxnana,* (Dwarf Sugar Gum). But the tables were soon turned. The White-fronted then chased the White-plumed Honeyeater out and then returned to feeding in the *E. woodwardi.*

Trees flowering at the time of sighting were *E. woodwardi,* (Lemon-Flowered Gum), *Hakea multilineata, Grevillia alpina, (Grevillia)* Clear-view David, *E. cladocalyx nana, Acacia longifolia,* and *Melaleuca armillaris.*

The bird was sighted again on Tuesday 18 August at about 1500hrs.

Description: White-fronted Honeyeater, *Phylidonyrus albifrons,* 18cm (7"). A yellow-winged honeyeater with white forehead and face.
Voice: musical "tsooee" metallic nasal "tweep", harsh "truk", mimics other species.
Range: Drier areas of Australia, rarely south of Divide. Nomadic.
Habitat: Arid woodland, heath and scrub, regenerated mallee, whip-stick country, favouring *Eremophila* (Emu bushes).
Note. There have been other recorded sightings in the Werribee area.

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G.F. Gayner, Lot 80, Jenkins Drive, Lara, 3212.

Editors Note: I regret the delay in publishing this observation, which predates that of Jess and Arthur Collins in 1983.

Grey-crowned Babblers in Ararat

Ray Baverstock

On 22 August, 1982 my wife and I were visiting our daughter and her husband at Ararat when a flock of Grey-crowned Babblers came to their garden.

The first bird we saw landed on the trellis just outside the kitchen window. As it perched with its tail fanned out and head lowered its grey crown was clearly visible.

This was an exciting moment because although I had seen White-browed Babblers in the Grampians it was the first time I had actually seen a Grey-crowned Babbler. The nearest encounter was one Easter a few years ago, when a party of us heard a flock of these birds calling in heavily wooded country in the Victoria Valley. Although we tried to attract them by playing a tape recording of their call we did not sight them.

As this particular bird was perched on the trellis we noticed more babblers on the side fence and others moving through the shrubs in the front garden, and we could hear them calling.

When we went out into the front garden to get a closer look we could hear others calling from over the road. Altogether there appeared to be at least eight birds in the flock.

Shortly afterwards they all moved to the west in the direction of the Railway Station and for the next half and hour we could hear their long drawn out piping calls in the distance.

They returned briefly to Anne and Richard's garden and then moved off to the east.

The sighting stands out in my mind for several reasons.

Not only was it my first sighting of Grey-crowned Babblers but I was rather surprised to see them in such an open area, as there are very few trees in the vicinity. Behind are several railway tracks including the main Adelaide line, and opposite is a bare horse paddock.

The nearest wooded areas are the Aradale Golf Course and the Flint Hill Reserve, neither of which are large areas. Several kilometres to the east is Mt. Langi Ghiran and to the north east the Pyrenes Ranges. I suspect the latter is the area from which the birds came.

In their book *Birds of the Ballarat Region,* Roger Thomas and Jack Wheeler write of this bird:-

> "Extinct in region, nearest now known to Ballarat:- St. Arnaud, Rheola, Lake Fyans and near Bendigo."

This sighting at Ararat on 22 August, 1982, is nearer to Ballarat than Lake Fyans, but rather than a minor extension of their range, is probably an isolated occurence, as although Anne believes she may have heard Babblers on a previous occasion she has not heard or seen them since.

When we returned to Geelong that Sunday night we played back Bill Flentje's tape and there was no mistaking that distinctive call we had heard earlier in the day.

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EDITORIAL

The two long articles in this issue of the *Geelong Naturalist* illustrate the strength of our Club– its ability to bridge the gap between the serious naturalist whose observations are made in a scientific context, and the equally careful and knowledgeable observer whose primary inspiration is the love and enjoyment of birds, animals and plants. Clubs like ours need to appeal to both, and draw on the individual and complementary strengths of both, so that we can learn together, and share our knowledge and pleasure, and work together for the preservation of our wildlife and the environment it needs to survive.

Margaret Cameron.

The Distribution and Status of Owls (Aves: *Strigidae* and *Tytonidae*) in the Geelong-Otway District.

Lawrie Conole

Introduction

This paper presents data on the distribution and occurence of owls in the Geelong-Otway district of Victoria. Also, general biology and relevant aspects of the ecology of each species are presented with suggestions as to how future research could increase knowledge and aid conservation efforts.

Where possible, records from the literature are presented. A literature record of *Tyto* species is examined in the light of current knowledge and reidentified as the Masked Owl *Tyto novaehollandaie.* Most of the locality records come from my own field experience, except where otherwise acknowledged.

My two primary aims in writing this paper were:

(i) to document the available data on owls in the Geelong-Otway district, and
(ii) to encourage interest in the owls and inspire readers to contribute to our knowledge of the group.

The order Strigiformes containing all the owls is divided into two families: the Strigidae or typical owls and the Tytonidae or masked owls. Both of these families are represented in the Geelong-Otway district, the Strigidae by three *Ninox* hawk-owls and the Tytonidae by four *Tyto* masked owls.

Most the of the seven species are unobtrusive, even secretive, and the birds are seldom seen, except by zealous bird observers. Many people however may have encountered the small Southern Boobook *Ninox novaeseelandiae* or the ghostly Barn Owl *Tyto alba.* The hauntingly beautiful *mo-poke* or *boo-book* of the Southern Boobook is a familiar nocturnal sound in both town and country, whilst dead or emaciated Barn Owls are found in all sorts of places after population crashes following the first cold snap of winter. Of the nine species of owl resident in Australia, only the Rufous Owl *Ninox rufa* and Lesser Sooty Owl *Tyto multipunctata* (Schodde & Mason, 1980), of northern Australia do not occur locally.

Species Discussion
Class: Aves
Order: Strigiformes
Family: Strigidae

1. *Ninox strenua* Powerful Owl
Local Subspecies: no valid subspecies are recognised (Mees, 1964).

Austraia's largest owl, the Powerful Owl has a wide distribution in the Geelong-Otway district. My records show it to be present in the two major forested land systems of the district – Otway Ranges and the Brisbane Ranges. I have observed the Powerful Owl at Point Addis-Ironbark Basin, Distillery Creek, (Angahook Forest Park), Sheoaks Picnic Area (Lorne Forest Park), Grey River Scenic Reserve, Kawarren Regional Park and Calder Ridge Track/Binn's Road (Otway National Park) in the Otway Ranges. The Brisbane Ranges are vegetated by dry sclerophyll forest communities typical of Victorian goldfields, in contrast to the high rainfall wet sclerophyll forest and gully rainforest of the Otway Ranges. Here, I have recorded the Powerful Owl at Anakie Gorge (Conole, 1981b), Durdidwarrah and Steiglitz (Conole, 1981a). A well-known nest exists on freehold land at Steiglitz adjacent to the Brisbane Ranges National Park (Conole, 1981a).

Schodde and Mason (1980) describe optimum habitat for the Powerful Owl as being tall, dense *Eucalyptus* forest on hills and mountains up to 1200 metres in altitude, interspersed with rainforest in the gullies; and say that although the owls may roost in the dense gully forest, they hunt out in more open forest where the prey species (possums, gliders etc.) occur. Situations such these do not commonly occur in the Geelong-Otway district. Certainly, tall open-forest dominated by *Eucalyptus* species is the major vegetation type in the Otway Ranges, but rainforest is not extensive in the area and altitude rarely exceeds 400 metres. Relatively little is known of the Powerful Owl in the Otways due to the generally impenetrable nature of the vegetation and the virtual inaccessibility of much of the terrain during the winter and spring. Pescott (1983b) lists several other locations for the Otways – Gum Flat, Gherang Gravel Pits area and (unconfirmed) Mait's Rest. Notably, Mait's Rest in the Otway National Park comprises gully rainforest of *Nothofagus cunninghamii* surrounded by tall open-forest of *E. globulus*. Belcher (1914) has a record from Bambra of the Powerful Owl.

More is known and observation somewhat easier in the drier, more open Brisbane Ranges. Frank Lobb (pers. comm.) observed a Powerful owl at roost in the northern Brisbane Ranges with a partly grown Koala

Phascolarctos cinereus in its talons, and Pescott (1983b) noted the young Koala as a prey item brought to feed young at the nest at Steiglitz. Other items in the diet of local Powerful Owls are Common Ringtail Possum *Pseudocheirus peregrinus* (main prey), Sugar Glider *Petaurus breviceps,* Yellow-tailed Glider *P. ausralis* (Otways only), Common Brushtail Possum *Trichosurus vulpecula,* Brown Antechinus *Antechinus stuartii,* European Rabbit Oryctolaqua cuniculus, Australian Magpie *Gymnorhina tibicen,* White-winged Chough *Corcorax melanorhamphus,* Australian Raven *Corvus coronoides,* Grey Currawong *Strepera versicolor* and Laughing Kookaburra *Dacelo novaequniea* (Seeback 1976, Tilley 1982, Bound 1964, Conole, 1981a). Elsewhere in Victoria Greater Glider *Petauroides volans,* Brush-tailed Phascogale *Phascogale tapoatafa,* White-striped Mastiff-bat *Tadarida australis* (once only) and Pied Currawong *S. graculina* have been noted as prey items of the Powerful Owl (Tilley 1982, Fleay 1968, Van Dyck & Gibbons 1980).

In the field, the Powerful Owl can usually be found roosting in a relatively open, leafy canopied tree in denser gully vegetation within wet or dry sclerophyll forest in hilly country of the Otway and Brisbane Ranges. At night the loud, slow *whooo-hooo* call may be heard for a considerable distance. In duet, the female's voice is noticeably higher pitch than the male's, and like several other *Ninox* owls but unlike most other birds of prey, the male is larger than the female.

2. *Ninox connivens* Barking Owl
Local Subspecies: *Ninox connivens connivens* (after Mees, 1964).

This locally little known owl is actually more widespread than the larger Powerful Owl although perhaps less numerous. The Barking Owl is recorded by Pescott (1983b) as occurring in the Otway hinterlands as well as Anakie, Angahook Forest Park, Corio, Werribee Sewerage Farm, and the You Yangs, and Belcher (1914) records it at Birregurra. My records include Staughton Vale (Conole, 1981a), Anakie Gorge (Conole, 1981b), Steiglitz (Conole, 1981a), Grey River Scenic Reserve and Sheoaks Picnic Area (the latter two locations in the Lorne Forest Park).

There seems to be a general tendency amongst bird observers and in the literature to associate Barking Owls mainly with tropical northern Australia (where it is abundant) and in Victoria only north of the Great Dividing Range. However, my notes show that Barking Owls are at least marginally able to utilise the heavy eastern and southern forest. At Grey River and Sheoaks, Barking Owls appear to roost in denser gully vegetation but forage on the drier more open ridges. In the top end of the Northen Territory I found Barking Owls roosting in low, dense monsoonal rainforest surrounded by open *Eucalyptus/ Pandanus* tropical woodland.

Schodde and Mason (1980) describe in general terms the habitat favoured by the Barking Owl in southern Australia as groves of River Red Gums *E. camaldulensis*, Coolibahs *E. mirotheca* and Sheoaks *Casuarina*, and thickets of wattle *Acacia*. This description is more applicable to inland Victoria, South Australia and New South Wales, whereas in the local area they have been found roosting in Cherry Ballart *Exocarpos cuppressiformis* in dry sclerophyll forest (Pescott, 1983b).

At Staughton Vale I observed an adult Barking Owl catching flying insects and feeding a perched apparently adult plumaged bird. In general, the Barking Owl is more insectivorous than the Powerful Owl and not a specialist arboreal mammal hunter. In fact the introduced European Rabbit features prominently in the diet of some southern Australian Barking Owls (Peake pers. comm.). The traditional prey items taken by the Barking Owl are mostly small, native terrestrial animals and various roosting birds (Calaby, 1976). At Staughton Vale, the Barking Owls made nightly depredations on roosting Australian Magpies and their fledgling young. Two decapitated fledgling magpies were found beneath the roost tree in the morning.

The explosive *wuff-wuff, wuff-wuff...* of the Barking Owl is a memorable nocturnal experience, especially when accompanied by the growling and screaming woman calls. Confusion with a barking dog or even a Sugar Glider is possible for an inexperienced observer, but the repetitive, almost relentless, call of the Barking Owl is distinctive once learnt.

3. *Ninox novaeseelandiae* Southern Boobook
Local Subspecies: *Ninox novaeseelandiae boobook* (mainland), *Ninox novaeseelandiae leucopsis* (Tasmania) (after Mees, 1964).

The ecological tolerance shown by the Southern Boobook is remarkable, and the species ranges throughout the entire continent and Tasmania, except for the treeless deserts (Schodde and Mason, 1980). *Eucalyptus* woodlands and open-forests are the optimum habitats, but the Boobook is also found in dense, wet sclerophyll forest and rainforest in addition to the mulga scrubs of the inland.

I have recorded the Southern Boobook throughout the Geelong-Otway district: Airey's Inlet, Anakie Gorge, Anglesea, Apollo Bay, Bambra, Bannockburn, Barwon Downs, Boonah, Belmont, Bellbrae, Benwerrin, Beech Forest, Birregurra, Calder Ridge, Cumberland River, East Geelong, Elaine, Freshwater Creek, Forrest, Geelong, Geelong West, Gellibrand, Grey River Scenic Reserve, Gum Flat, Highton, Inverleigh Common, Ironbark Basin, Jamieson River, Jancourt Forest, Kennett River, Kawarren, Lorne, Laver's Hill, Mait's Rest, Melba gully, Marcus Hill, Mount Cowley, Mount Sabine, Mount Moriac, Modewarre, Moggs Creek, Newtown, Olangolah, Ocean Grove, Pomborneit, Paradise, Steiglitz, Sapling Gully, Sheoak Picnic Area (Lorne Forest Park), Sheoaks, Wye River and You Yangs. The above locations represent a wide spectrum of habitats from farmland and suburbia through to wet sclerophyll forest and rainforest.

The Southern Boobook is largely insectivorous and only occasionally or opportunistically preys upon small vertebrates (Schodde & Mason, 1980). A familiar nocturnal call is the *mo-poke* or *boo-book* of the Southern Boobook, but this call was once wrongly attributed to the Tawny Frogmouth *Podargus strigoides* (often erroneously called the Mopoke or Mopokle Owl). The Boobook also gives a persistent one note guttural *book, book, book,.....* as a "warm-up" call often early in the evening.

Boobooks customarily roost in medium-dense foliage of various forest trees, notably *Acacia* and Exocarpos. Southern Boobooks were found roosting in an introduced Pincushion Hakea *Hakea laurina* in the you Yangs (Pat Russel pers. comm.).

I have recognised two subspecies of Southern Boobook in the Geelong-Otway district. The resident *Ninox novaeseelandiae boobook* is the subspecies found in all of Victoria, New South Wales, southern Queensland and across to about Port Augusta in South Australia (Mees, 1964). Mees (1964) also describes the race *boobook* as a large Southern Boobook somewhat variable in colouration, but warm brown above, large vague white spots on the wings, and ventrum usually with blotchy striations rather than being ocellated. The eyes are greyish-green (Pizzey, 1980). The other race, *N. n. leucopsis,* is a Tasmanian-based migrant, and is known from Victoria in the winter (Mees 1964). The Tasmanian is a small Boobook having dark greyish upperparts conspicuously and clearly spotted with white especially on head and neck, and strongly ocellated underparts (Mees, 1964). The eyes are yellow (Pizzey, 1980). (Richard Loyn reports local owls with yellow eyes, so there may be geographic or individual variations, in owl differences i.e. the perception of local observers).

I have observed the Tasmanian Southern Boobook in the Otways during June and July in wet sclerophyll forest at Mount Sabine and Mount Cowley. Several birds were seen over the period from 1980 through to 1983. It would be of interest to ascertain whether the Tasmanian migrants are regular and whether they visit other parts of the district.

Family Tytonidae

1. *Tyto Alba* Barn Owl
Local Subspecies: *Tyto alba delicatula* as for the rest of Australia (after Mees 1964).

Subject to occasional irruptions of hungry Barn Owls, the Geelong-Otway district is typical of southern coastal Victoria in being often the last resting place of birds following a dwindling food supply. The Barn Owl population is subject to spectacular fluctations in response to plagues of introduced and native small mammals. Morton (1975) found that at the Werribee Sewerage Farm, Barn Owls preyed almost entirely upon the introduced House Mouse *Mus musculus,* even though in some habitats (basalt grasslands especially) the similarly sized dasyrid marsupial Fat-tailed Dunnart *Sminthopsis crassicaudata* was equally abundant. Morton further suggested that the build up in numbers and subsequent high winter mortality of Barn Owls was directly correlated with the pattern of increase and mortality in the House Mouse population due to the Barn Owl's almost total dependence on the mouse for food.

So, although the district has a resident, relatively stable population of Barn Owls, irruptions of the species accompanied by prolific breeding and then extreme mortality create the wild fluctuations in numbers of Barn Owls seen in this area. Pescott notes irruptions in this district in 1954, 1970 and 1980. My records of Barn Owls in normal times are few – Norlane, Eastern View to Lorne coastal dunes, Leopold, Wurdiboluc, You Yangs, Fyansford, Gheringhap, Inverleigh and Queenscliff.

Schodde and Mason (1980) describe the Barn Owl as adapted to hunting in light woodland, edges of watercourses and savannahs, whether on mountains or plains. Dense forests are usually avoided.

The calls of the Barn Owl have led to its being called the Screech Owl overseas and in early Australian literature. One common call is described by Fleay (1968) as *sk-air, skee-air.* Barn Owls commonly roost in the introduced cypresses so often used on Victorian farmland, but also use other dense vegetation, tree hollows, caves, mines and buildings.

Photos by Trevor Pescott.

Southern Boobook Owl

Barn Owl

Confusion with the pale phase of the Masked Owl *Tyto novaehollandiae* is possible and should be borne in mind when observing white forest *Tyto* owls.

5. *Tyto longimembris* Eastern Grass Owl
Local Subspecies: Australian specimens were described as *Tyto longimembris walleri* (Diggles, 1866) but recent opinion considers Indo-Australian birds to be of the nominate subspecies *Tyto longimembris longimembris* (after Mees, 1964).

The Eastern Grass Owl is similar to the Barn Owl in some morphological characters, and in its dependence on species of rodents that periodically plague. Grass Owls are specialist hunters of nocturnal open country rodents and in their strongholds of the central plains and north-eastern coastal areas occupy treeless flood plains and swampy sedgelands (Schodde & Mason, 1980). However, Grass Owls are known to prey upon Ground Parrots *Pezoporus wallicus* in Queensland (R.A.O.U., 1984, Lyon pers. comm.). Their food supply in north-eastern Australia is more stable and so too is the population of Grass Owls; but in the central Australian flood plains of the Eyre drainage, the population of predator and prey are subject to cyclic boom and bust conditions. When the principal prey species, the Long-haired Rat *Rattus villosissimus*, declines after a plague, Grass Owls (and Letter-winged Kites *Elanus scriptus)* disperse towards the coast where they are sometimes found dead or in emaciated condition (Schodde & Mason, 1980).

Local records of the Eastern Grass Owl can be correlated with subsiding of plagues of Long-haired Rats in the Eyre basin of central Australia (Schodde & Mason, 1980). Belcher (1914) mentions two Eastern Grass Owls shot in the area: one at Point Henry and one at Breakwater, both undated. Possibly the Point Henry bird is one which Schodde and Mason (1980) associate with the 1884 Long-haired Rat plague, and the Breakwater owl was collected about the same time. Mees (1964), mentions an Eastern Grass Owl recorded by Campbell (1900) in the collection of the Geelong Museum. Records from Werribee in 1905 and 1933 also coincide with Long-haired Rat plagues (Schodde & Mason, 1980).

Belcher (1914) describes what he believes to have been a Grass Owl sighting at Point Addis in 1912, "I saw what I believe to have been a Grass Owl in a wooded gully near the Bull's Well, Point Addis in October 1912; it was on the ground beneath some saplings in bright daylght, at about 4.30 p.m.; it was out of sight before I could see more than that it was a large owl, light coloured, but larger and darker than the Delicate Owl". The Delicate Owl which Belcher refers is the Barn Owl *Tyto novaehollandiae,* based on the wooded gully habitat and general description of a large forest *Tyto* owl of darker colouration than the Barn Owl. Presumably, Belcher was influenced by the known ground roosting propensity of the Grass Owl, but the Masked Owl may have been drawn to the ground by a prey item or perhaps the heat of the afternoon sun.

Pescott (1983b) notes a possible sighting of a Grass Owl between Inverleigh and Winchelsea in farmland some time in 1950.

Thus it appears that the Eastern Grass Owl may never have been resident here, but occasionally arrives in the area as a refugee after the collapse of a Long-haired Rat plague in central Australia.

6. *Tyto novaehollandiae* Masked Owl

Local Subspecies: *Tyto novaehollandiae novaehollandiae* as for much of mainland Australia (after Mees, 1964)

Although, with the Sooty Owl *Tyto tenebricosa,* the Masked Owl is probably the least known of local resident owls, the species is widespread and even has a record in prehistoric times.

In addition to accepting several literature records at face value, I have re-examined two accounts of *Tyto* species (see under Eastern Grass Owl and Sooty Owl) and reidentified one as a Masked Owl. Belcher (1914) notes a Masked Owl at Bambra shot in 1900 by Mulder, and I believe his Point Addis Grass Owl to have been a Masked Owl. John McKean (pers. comm.) saw a Masked Owl near Birreugurra in January 1956 and Pescott (1983a) found two dead Masked Owls on the beach after Ash Wednesday in 1983 – one at Point Addis and one at Bancoora. I have observed the Masked Owl near Sheoaks Picnic Area in Lorne Forest Park and Paul Peake (pers. comm.) has also observed the species there. I have also observed two individual Masked Owls in the You Yangs Forest Park in 1984 – a chestnut-faced immature female and a pale phase adult female.

An aspect of the ecology of Masked Owls which has led to some of their pre-European range being discovered is cave roosting. The Masked Owl is regarded as being responsible for the accumulation of *breccias* of mammal, bird and reptile bones in caves in southern Australia (Wakefield, 1973). I have been excavating such a deposit at Steiglitz in Brisbane Ranges since early 1983, and the nature of prey remains would indicate that a Masked Owl was responsible. The deposit contains fauna which by comparison with dated deposits, could date back to the late Pleistocene or mid-Holocene (} 10,000 years B.P., or 5,000 years B.P.) period.

The Masked Owl inhabits the forests and woodlands of *Eucalyptus* species and is therefore limited to the catchments of the larger coastal river systems around the entire continent. There are no substaniated records from more than 300 kilometres inland. The Masked Owl requires a greater diversity of habitat than similarly sized sympatric Powerful and Sooty Owls. *Eucalyptus* forest is utilised for nesting and roosting, but hunting is mainly along forest edges and in clearings. Because of these factors, the home range of a pair of Masked Owls in south-eastern Australia is relatively large – 500 to 1,000 hectares – and territories are well spaced (Shodde & Mason, 1980).

Usually tree hollows or dense foliage are the roosting sites of the Masked Owl, but they are known to use caves and even buildings. The calls of the Masked Owl are similar to but louder and more varied than the Barn Owl.

7. *Tyto tenebricosa* Sooty Owl

Local Subspecies: *Tyto tentbricosa tenebricosa* (after Mees, 1964). Schodde & Mason (1980) have raised the northern Australian *T. t. multipunctata* to full specific status as the Lesser Sooty Owl.

"Dark raider of the deep brushes" as Fleay (1968) referred to the Sooty Owl – a uniquely specialised and territorial *Tyto.* Unlike the itinerant Barn Owl and Eastern Grass Owl, the Sooty Owl is a habitat specialist and vigorously defends its territory against other Sooty Owls. The Sooty Owl does however tolerate overlap with both Powerful Owl and Masked Owl because in south-eastern Australia these three large owls have evolved a partitioning of resources. Even though the Masked Owl takes a similar range of prey items to the Sooty, and the Powerful is even more of a arboreal mammal specialist, only the Sooty Owl is adept at hunting within the confines of a closed-forest (rain-forest). Thus in south-eastern Australia, the Powerful Owl hunts through the ridge country (and more open gullies) for mainly terrestrial mammals, the Sooty Owl keeps within the dense rainforest and gully forest preying upon both terrestrial and arboreal mammals, whilst the Masked Owl works the forest edges and adjacent clearings for mainly terrestrial mammals (Schodde & Mason, 1980).

I have one personal record of the Sooty Owl in the Geelong-Otway district. On 15 January, 1982 a Sooty Owl was heard giving a vigorous rendition of the "falling bomb" whistle and various clicking and

Photos by Trevor Pescott.

Young Powerful Owl

Powerful Owl

whirring sounds for a short period after dusk on the banks of the Sheoak River near the picnic ground, Lorne Forest Park. This location, near Sheoaks Picnic Area comprises dense wet gully forest of large Mountain Grey Gum *Eucalyptus cypellocarpa* and Blue Gum *E. globulus* with a middle storey of Blackwood *Acacia melanoxylon,* Blanket-leaf *Bedfordia arborescens* Musk Daisy-bush *Olearia argophylla* and Austral Mulberry *Hedycarya angustifolia.* There is but one literature record of the Sooty Owl by Nicolette Hooper in the late 1970's near the Sheoaks Picnic Area on Allanvale Road, Lorne Forest Park (Pescott, 1983b). Hooper (pers. comm.) gave a perfect description of the Sooty Owl, exhibiting however very atypical behaviour. It was in the middle of the day and the owl flew across the road and landed in an open tree in open-forest. Whilst this behaviour is extraordinary for a Sooty Owl, Hooper's description of a large sooty *Tyto* with huge dark eyes and extensive white spotting is excellent. These records comprise an extension of range of approximately 160 kilometres westwards from the previous known western limit in the Dandenong Ranges (Blakers *et al,* 1984).

The Sooty Owl is a true rainforest bird but can usually be found in tall, wet gully forest of large *Eucalyptus* species with a dense rainforest-like middle storey. The Sooty Owl almost exclusively roosts in tree hollows.

Calls of the Sooty Owl are remarkable and very distinctive. Pairs usually greet one another upon rising in the evening with a loud, piercing, descending scream/whistle. Clicking and whirring sounds usually follow.

Owls and the Future

The question of whether or not owls are afforded sufficient protection by the system of parks and reserves in the Geelong-Otway district can really only be addressed after sufficient research has been carried out to determine the distribution and requirements of the resident species. Both amateur and professional ornithologists can do much toward this end.

The *Ninox* owls, Powerful, Barking and Southern Boobook, are well distributed in the district and all occur in several reserves: Angahook-Lorne Forest Park, Otway National Park, Carlisle State Park, Kawarren Regional Park in the Otway Ranges; in other parts of the district in Brisbane Ranges National Park, Steiglitz Historic Park, Inverleigh Common Flora Reserve and You Yangs Forest Park.

The *Tyto* species are a different case altogether. The only records of the Sooty Owl are from the Angahook-Lorne Forest Park around the Sheoaks Picnic Area. Its habitat requirements are very specific and although suitable gullies are probably quite numerous to the west of Lorne, a severe wildfire such as occurred in the eastern Otways in 1983 could decimate the Sooty Owls in the western Otways – if in fact they occur there. A concerted effort should be made to determine the status of the Sooty Owl in the Otways Ranges.

Masked Owls are probably widespread although uncommon in this district and occur at present in at least the Angahook-Lorne Forest Park and the You Yangs Forest Park. The prehistoric record from the Brisbane Ranges could quite likely be supplemented by a modern one in projected modern fauna surveys of the area surrounding the Steiglitz cave. Much of the foothill forest north of the main ridge of the Otway Ranges and open-forest to the east and west of the heavily forested region is likely Masked Owl habitat. Once again, the status of the Masked Owl in this district should be investigated.

The Barn Owl is widley distributed on farmland in the Geelong-Otway district, but also occurs marginally in reserves such as the Angahook-Lorne Forest Park, Inverleigh Common Flora Reserve, You Yangs Forest Park and Werribee Sewerage Farm sanctuary. The fluctuating fortunes of the Barn Owl are probably not cause for concern and conceivably the Barn Owl will continue to benefit from agricultural utilisation of the land.

Vagrant is probably the best local categorisation for the Eastern Grass Owl. Confusion with either Barn or Masked Owls in likely habitat is possible but not probable. Survey work at times when Long-haired Rat plagues are subsiding in central Australia would be useful.

In terms of conservation reserves and owls in the Geelong-Otway district, it is obvious on current knowledge that the Angahook-Lorne Forest Park is very significant. The Powerful Owl, Barking Owl, Southern Boobook (mainland form) and Masked Owl are established in the park. The Sooty Owl is of unknown status but probably a rare resident, and the Barn Owl at least regularly forages on coastal dunes. The Southern Boobook (Tasmanian form) is a winter migrant to the Otways.

In view of the resource partitioning practised by the three large owls in the Otways, it becomes apparent that some of these species may be adversely affected by clearing and logging operations. The deep, dark gullies frequented by the Sooty Owl are generally exempt from logging. Clear-felling could conceivably temporarily advantage the

Masked Owl by creating ecotones, but probably at the expense of Powerful Owls. The ridges and midslope areas that constitute roosting, nesting and foraging habitat for both Powerful and Masked Owls and a range of prey species are destroyed in the short-term by clear fell logging. It is not sufficient to conserve gully vegetation because although gullies act as refuges in times of short term disaster such as wildfire or clear felling, the midslope and ridges are essential for the survival of potential prey species such as the Yellow-bellied Glider (Steve Craig pers. comm.).

Further forest reserves in areas now designated for hardwood production may be appropriate when data become available as to the exact requirements of owls and their prey in the Otway Ranges. The other main forest block, the Brisbane Ranges, is almost entirely contained within the Brisbane Ranges National Park, Steiglitz Historic Park and Geelong Water Board's Stony Creek catchment (limited access sanctuary). The three *Ninox* species seem well catered for, and perhaps the Masked owl too if it occurs in the modern avifauna of the Brisbane Ranges.

Acknowledgements

I would like to thank Margaret Cameron for unlimited access to her private natural history library and for assistance in locating useful references.

I would also like to thank Steve Craig (Arhtur Rylah Institute) and Paul Peake for some stimulating discussions on the topic of owls and things nocturnal.

In addition I would like to thank Richard Loyn (Mountain Forest Research Station), Dr. James Marchant (Marine Science Laboratories) and John McKean (Conservation Commision of the Northern Territory) for their valuable and constructive criticism of a draft of this paper.

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President's Report 1984-85

1984-85 has in some ways been a mixed year with some fluctuations in the strength of the Club. Membership numbers appear to be declining, yet we are continually welcoming new members; programmes were generally successful, sometimes outstandingly so, but two events were cancelled through lack of support; many conservation issues have been addressed and the Committee as a whole has worked hard, yet as I write this, we have no incoming President.

I thank all those who have contributed to the successful running of the Club – the Committee, especially the main office-bearers, Dave King, Craig Morley and Diana Primrose, and the conservation subcommittee where Trevor Pescott's wisdom and knowledge of natural history continue to be an inspiration, and the many background workers such as the typists, those who look after the library, who stock and organize the trading table ard who set up the hall for general meetings, leaders of excursion and campouts, helpers with displays and bird walks, compilers of species lists, caterers and despatchers of magazines and newsletters. Whenever I have asked for help, someone has come forward. I am very grateful for this, and I believe it is an indicator of the well-being of the Club.

With the death of Jack Wheeler late last year we lost one of the lifegiving forces in the history of the Club. Jack was a foundation member, President for ten years and held various other positions on the Committee. He inspired many people with a love of natural history and his influence survives in many ways. He left us a legacy in his booklet, "The care of sick injured and orphaned native birds and animals". All proceeds from this have gone to the Club and provide us with a financial backstop and a means of purchasing items of equipment we could not otherwise afford.

Guest speakers at general meetings, all experts in their fields, presented a wide variety of topics. We welcomed Jim Stockton, Leon Costermans, Stephen Davies, Brian Smith, Bob Warnecke, Neil Morley, Jack Douglas and Malcolm Calder. Thus information ranged from living trees and shrubs in their natural environment to endangered plant species and the role of national parks in preserving them; to fossil plants and to fauna as varied as non-marine molluscs, Bass Strait mammals and arid zone birds, as well as aboriginal culture and the Healesville Sanctuary. Members nights were equally interesting and proved we have much local talent and expertise. The symposium on the Barwon River gave us insight into an area very close to home, and we appreciated Trevor Pescott's New Zealand experiences, and

Lawrie Conole's significant sub-fossil finds in a cave in the Brisbane Ranges.

Several speakers were followed by an excursion on the same topic, at which they acted as leader, and we are grateful to Jim Stockton, Neil Morley and Jack Douglas for adding to our interest on these occasions. The bus trip to the Healesville Sanctuary and the Otways fossil plant excursions were both extremely well attended.

During the Winter months, particularly, attendance at excursions fell off markedly, and one campout had to be cancelled because of lack of interest. We have looked carefully at possible reasons for this, one being that the syllabus was overcrowded. Therefore we have tried to limit scheduled outings for 1985-86 to the bare minimum. This will allow more of us to take part in inter-Club activities such as WVFNCA and VFNCA campouts, to make special inspections of sites of conservation interest and to take part in surveys as the need arises. If there is an indicated demand we can always arrange extra events.

The Flinders Island trip, as originally conceived, proved to be too expensive to interest many people. However, at the last moment we had the opportunity to organize a much cheaper air flight, using local pilots, and the nine people who made the trip had an excellent weeked. We could organize similar small scale plane flights if members are interested.

Other campouts were to the Pyrenees, Port Fairy, Brisbane Ranges, Tanybryn and Mt. Eccles. These were always enjoyable, although not particularly well attended. I would recommend to all members that they "try" a campout, not only for the fellowship around the campfire but for the opportunity it provides for more unusual activities such as spotlighting, mammal trapping surveys and having time to sit quietly and watch the birds or key out a difficult plant.

Nearly every year sees the Club act as host to a visiting organization. In May the RAOU Scientific Day was held in Geelong, and the Club provided leaders for the following day's excursion and catered for a picnic lunch and an evening barbecue. Such events gives us a welcome opportunity to interact with naturalists from elsewhere.

We were not always able to visit Moggs Creek for our Otways Regeneration Survey as regularly as we had planned. Individuals' reports are building up a pattern of recovery of flora and fauna, particularly of understorey plant species and of birds. Mammal trapping produced some interesting results, reflecting the current mouse plague and some evidence of breeding by bush rats. We have not yet had evidence of the return of other small species such as antechinus. We are putting together our data and will publish it shortly.

In the coming year we will visit the area less frequently. An excursion is planned for May and a campout later in the year. Regular visits by individuals to record bird life would be appreciated. Gordon McCarthy had kindly agreed to coordinate mammal survey work and interested members should contact him.

Two boneseed pulling days at the You Yangs were held, the first in bleak midwinter and the second on an extremely hot day. Although we recleared much of "our" area at the Top Saddle, we were beginning to feel the weed was getting the upper hand. Now, with the fire of 14th January, the picture is very different, and so will our role be. We will work in with the You Yangs management in boneseed control and treeplanting.

An attempt was made to revive formal botany study meetings. It seems, however, that the Club's botanical work, valuable as it is, will remain spasmodic unless there is a larger number of members whose main interest is in plants. The group agreed to contribute to the Banksia Atlas, and keeps authoritative species lists on excursions and campouts.

The Bird Study Group continues to flourish. Monthly meetings are always very well attended. Topics covered are usually specialised, regular excursions are held and members take part in many extra surveys such as the Wader Counts, Hooded Plover Count and Orange-bellied Parrot Survey. During Bird Week in October Geelong Magpie Map was set up and information on magpie numbers and nesting behaviour was sent in by school groups and members of the general public, and later collated by Margaret Cameron. The group is currently undertaking a survey of the bird life in the fire-affected You Yangs Forest Park.

An excellent programme has been provided for the Juniors on each meeting night, but the small attendance is a cause for concern. Many thanks to Dave and Betty King for organizing and supervising junior activities.

The Club has been represented on the Committees of Management for the You Yangs Forest Park, the Ocean Grove Nature Reserve and the Inverleigh Common. With the restructuring of the Ministry of Conservation Forests and Lands and the setting up of the Geelong region we hope to work closely with regional management. We can provide data on local flora and fauna and advise on areas of conservation value.

During the year we purchased a tape recorder and directional microphone capable of recording bird song or frog calls. We have not yet tried it out much in the field; however we have recorded all guest speakers and these tapes are available for loan. Many excellent and often expensive books have been donated to our library, and these, together with purcahses and regularly received journals, make the library a continuing source of valuable information.

Other activities this year have included the mounting of two displays. At the plant show organized by the Society for Growing Australian Plants we had a segment on "Birds and Native Gardens", and at the City of South Barwon's community evening we featured the Belmont Common and the results of the Magpie Map.

We had hoped to have a Buffet Dinner as a social event, but so few tickets were sold we had to cancel, with a small loss of revenue. Perhaps our meetings and outings provide enough social interaction.

We have had some problems with the production of the Newsletter, particularly at the time when the printers shifted premises. The quality of the reproduction was not always up to the required standard, and for two meetings the Newsletter did not arrive in time, which meant extra work posting it out to all members who had attended the general meeting. We hope our problems have now been ironed out.

We have decided to set up an Editorial Committee to help with work associated with the production of the magazine. The Naturalist continues to include articles of a very high standard, and both local observations and reports as well as authoritive articles from "outsiders" have been published. Many thanks to our Editor, Margaret Cameron, for her professional approach to a voluntary job.

A new venture into publishing will be taken later in 1985. We are preparing a book on the Barwon River, which will promote the natural history of the river in its urban reaches. We have received two government grants totalling $2000 towards this project.

Through our representations a grant of $500 has been provided by the Australian Bird Environment Fund for a bird hide to be erected at the Ocean Grove Nature Reserve.

I attended two workshops on the Club's behalf, on restoring local vegetation and on the environment assessment process.

The objects of the Club are "To stimulate interest in natural history and to protect and preserve flora and fauna". Through the first we partly achieve the second, but only partly. So we find ourselves taking a very active role in conservation issues. A great deal of energy is put into preparing submissions, writing letters, researching cases, making representations and so on.

We have commented on the State Conservation Strategy, the development of Lake Connewarre, the Sand Island at Queenscliff, Painkalac Creek, Fort Island, the Ironbark Basin and the future of Serendip. We have written to the appropriate authorities about the threat of smilax on native vegetation, the random distribution of seed during Arbor Week, felled ironbarks at the You Yangs, the use of disused railway land, and many other matters. We made inspections of Grass Tree Park, the Long Forest Mallee and land at the junction of the Leigh and Barwon Rivers, and a preliminary survey of Duck Island. We met with the Minister for Conservation Forests and Lands to discuss various issues includings the setting up of a natural history museum in Geelong and with the Regional Land Manager to discuss new policies and developments. We met with the South Barwon City Engineer to learn about plans for Waurn Ponds Creek Valley and with a representative from the Merri Creek Coordinating Committee. We have started to compile a bibliography of the Otways to help access to information we may require. I believe we have often had some influences on environmental decisions.

Two of the committee members who are retiring have served for very long periods. Geoff Gayner came on to the Committee in 1963 and Betty Quirk in 1968. Betty has held the position of Assistant Treasurer since 1970. She has been nominated for life membership of the Club in recognition of her services.

As I retire from an executive position on the Committee after eleven years I would like to say thank you for giving me the opportunity to learn so much – about natural history, about conservation and about people.

Valda Dedman

Treasurer's Report 1984-85

General Account

This year the General Account showed an income over expenditure of $900.43, enabling $1,100.00 to be transfered to Deposit Stock. General Account Deposit Stock now stands at $5,000.00. It has been decided at the Budget Sub-committee meeting that, due to the reasonably healthy state of affairs, no increase in subscriptions would be made this coming year, except for a small increase to cover increased postage for those receiving the newsletter by post.

Some notable donations this year have been a total of $2,000.00 from the Ministry for Conservation for the publication of our proposed booklet on the Barwon River, $180.00 from the City of South Barwon Recreation Voucher Scheme (approximately half that received last year) and $42.00 from the Shire of Bellarine Recreation Voucher Scheme (which the Council has decided to discontinue).

Fifty R.A.O.U. calendars were sold at a profit of $2.00 each, adding $100.00 to our funds. The Trading Table continues to make a very worthwhile contribution to our receipts, bringing in a sum of $365.54 this year, while the sale of the Recipe Book contributed another $108.00. Our bus trip to Healesville proved to be most enjoyable and interesting, as well as yielding a small profit of $41.80. Our insurance premiums have been increasing steadily, and showed quite a steep increase from last year. On review of the policies an adjustment in premiums meant a refund of $105.00.

No. 3 Account

This special purposed account for the booklet "The Care of Sick and Injured Birds and Animals", by the late Jack Wheeler, B.E.M., showed a small excess of receipts over payments of $89.96, although some Deposit Stock was redeemed.

During the year $800.00 was spent on re-printing the booklet, which has a steady market over the length and breadth of Australia. $380.86 was used to buy club equipment – a cassette recorder and a microphone and accessories. $400.00 was brought from the No. 3 account Deposit Stock for this purpose, leaving a sum of $3,400.00 in the Deposit Stock Account.

I would like to give special thanks to Mr. Harry Kroger who expertly managed the books in my absence, Miss Betty Moore who attended to the membership files while I was away, and, of course, Mrs. Betty Quirk who again assisted with receiving of money. Special thanks go to Mr. Barry Redman for auditing these books.

(Miss) Diana Primrose,
Honorary Treasurer,
G.F.N.C.

Receipts and Payments Account for Year Ending 7th March, 1985

GENERAL ACCOUNT

Receipts		Payments	
Subscriptiosn	2,689.50	Printing & Stationery	1,728.35
Donations	275.60	Postage	425.98
Deposit Stock Interest	474.59	Petty Cash	142.39
Sale of Publications	476.50	Subscriptions to other Clubs	218.50
Sale of Recipe Books	108.00	ACF Daintree Campaign	50.00
Trading Table	365.54	Donations to St. David's	
Excursion Receipts	619.00	for hall use	379.00
RAOU Catering Receipts	340.00	Elders D.S.M. Insurance	300.06
Payments for Club Dinner	264.00	Purchase Library Books	
Refund Elders D.S.M.	105.00	& Equipment	136.35
Sundries	44.60	Publications for re-sale	369.00
Proceeds Raffles	146.80	Excursion payments	577.20
		Travel Expenses – Speakers	50.00
		Refunds Club Dinner	242.00
		RAOU Catering Expenses	123.40
		Bank Charges	14.52
		Sundries	161.95
		'Durac' Searches	55.00
		Workshops attended by Club	35.00
	5,909.13		5,008.70
Special Govt. Grant for Booklet	2,000.00	Investment Deposit Stock	1,100.00
	7,909.13		6,108.70
Cash Book Balance 6/3/84	605.23	Cash Book Balance 7/3/85	2,405.66
	$8,514.36		$8,514.36

General Account Deposit Stock: Balance at 7/3/85 $5,000.00

No. 3 ACCOUNT

Receipts		Payments	
Donations	558.60	Printing	800.00
Interest	358.26	Postage	44.25
Deposit Stock matured	400.00	Purchase of Equipment	380.86
		Bank Charges	1.79
	1,316.86		1,226.90
Cash Book Balance 6/3/84	781.59	Cash Book Balance 7/3/85	871.55
	$2,098.45		$2,098.45

No. 3 Account Deposit Stock Balance at 7/3/85 $3,400.00

Lorikeets and other birds from a kitchen window in suburban Newtown

Theo Trickett

We have never had so many baby Rainbow Lorikeets coming to the garden as this year. One is alerted by the squeaky tricycle call, although at that stage they also have the single contact call. The new arrival means a rush for the binoculars to check the bill colour, or a closer inspection if one is in the garden, to see the bill which is sometimes black-tipped.

2 new ones on 2 December, 1983.
2 new ones on 6 February, 1984; 1 on 21 February, 1984, possibly the only survivor of the original 2.
1 new one on 23 June, 1984; probably the same one on 9 and 13 July.
1 new one on 19 October, 1984; as much yellow as red on breast.
2 new ones on 15 December, 1984; probably the same ones on 6 and 16 January, 1985.
1 new one on 6 February, 1985.
1 new one on 14 March, 1985.

Perhaps at long last the Rainbows have found a really good nesting hole!

Early Behaviour

On 7 February at about 8 a.m. there were 3 Rainbows on the footring of the feeding bottle, and that's so unusual I rushed for the binoculars– and one was definitely young and brownbilled. It was obviously being taught the technique of drinking from the bottle. The three beaks were there together at the point of nectar delivery. Baby evidently thought three Rainbows a bit much, and it studied the scarlet breast of the nearest, and then deliberately pulled out a feather! The parent seemed to be wondering what the youngest generation was coming to, then it flew off, and the other adult left also. Thus baby was left alone on the footring at the bottle. He hadn't quite got the technique of drinking yet, and the binoculars showed his beak wide open around the white bottle top, with the toungue working furiously. But the bubbles rising through the nectar showed he'd learnt a thing or two.

The babies learn to get the nectar much more quickly when a parent shows them how. The parents have mostly left them to work it out for themselves, but perhaps these parents remember their own bothers at finding the nectar spot. The beginner's usual problems include flying up the outside of the bottle and lunging at the inaccessible dark fluid from the outside – awkwardly arriving at the seed feeder on top, from where the whole bottle would seem – to it – to have disappeared, then, frustrated, awkwardly flying off to the rose, or the ti-tree.

I've seen them hang on tip-toe from a rose branch, lean horizontally towards the bottle – overbalance – and land on the footring by what looks like coincidence. When you see big bubbles rising up through the nectar, you know baby's got the idea!

The flight of the young ones looks to be quite hard work – the hunched shoulders and the straining to keep up, and the uncertainty as to where to land. Sometimes the chosen spot doesn't look so good, and they'll turn a laborious circle and try again.

The parents frequently park the young ones in trees in our garden or nearby, while they go off with that swift, sure flight for a couple of hours or more. The very young couldn't possibly keep up. Much better to stay in our garden and utter saccato calls until someone puts up a nectar bottle, or maybe catch a stray insect passing by.

No matter how recently any of the babies have learned how to get the nectar, they must know instinctively that Rainbow Lorikeets are top in the pecking order, in this garden anyway – they lunge and spike off Red Wattlebirds, New Holland Honeyeaters, et al.

The first time I saw (from the kitchen window) a baby Rainbow take a whole rosebud in his beak I wasn't pleased, although the bud seemed to emerge intact; when the birds had flown off I went down to inspect. Perhaps, however, they just strain off insects, since none of the petals showed any damage at all.

Bathing Rainbows

Often as I've seen Rainbow Lorikeets' version of a bath, it was a new one at 5.15 p.m. on 8 March, 1984. It so happened that the bath was almost empty and dirty – and in went first one Rainbow and another – stumbling in as usual – but then rolling over on its back with its feet in the air. Then awkward flip over and stumble to the bath rim – the next one did a repeat performance while the first looked on – quite a prolonged bath and sadly not a clean one for them.

On 10 March 1985, at 10.00 a.m., with 33° forecast, there were 5 Rainbows parked in vantage points in the apricot tree, 2 way up high on the silver birches, 2 at least at the nectar pot, 1 up in the blue gum, and 2 in the lower lawn bird bath, bathing. It was delighful to sit and watch whichever was bathing – splash, splash, flap, waddle through the water, haul up out of it with beak first over the rim, scratch around eye and fluff and shake feathers – and once, two heads and four eyes were peering over the birdbath rim, watching me! As soon as the first two finished, two more would emerge from their resting places and repeat the performance. Occasionally one would try to get in with two, but three just isn't permitted!

Individual Rainbows

Unless they are banded, there isn't much chance to differentiate individual Rainbow Lorikeets. Sometimes behaviour or colour can help. The one with the really scarlet breast noted on 16 July 1982 is still around, and it has always been somewhat of a loner. When he was very young his parents would either leave him (or he would be left) parked in the "swimming tree" near the pylons at Fyans Park, uttering shrill single contact calls. From early on, he also favoured a spot high up in the blue gum, and discovered that if he sat up there and called, a nectar bottle woulde be put up for him – he still does this.

The young one with the bi-coloured breast, noted in the *Geelong Naturalist* of March 1983, who twirled around on the seed container above the nectar bottle, still comes in and lands and twirls on it – the container will often move a bit if a bird lands. I suppose it's that particular Rainbow who likes, still, to make it twirl.

One of the young ones noted on 15 December 1984 was very small and thin, and was very distressed by the 42° heat of 16 January 1985, but came through it very well. He had got himself into the wire-mesh enclosure of the small birds, and was panting badly and in a great deal of trouble. Fortunately I was able to quietly get him out of his predicament.

The bill colour seems to me to very gradually change to coral over about a month, and the squeaky tricycle voice to strident call in the same time.

Other Lorikeets

Lorikeets are gregarious birds, and at 9.30 a.m. on 3 May, 1984 there were 6 Musk Lorikeets in the big flowering gum in a nearby neighbour's eucalypt. Musk Lorikeets have been in many times in 1984 – but we haven't seen the eucalypts flowering so heavily before.

Little Lorikeets have not been seen very often in the garden, but on 11 February 1985 I thought at first that there were 2 very young

Rainbow Lorikeets – the same clumsly flying, landing on top of the feeder, flying up or down the outside of the bottle – hanging upside down from the ti-tree – stumbling into the Ophelia rose and generally staggery flying, obviously trying to work out how to get the nectar. But it was actually 2 Little Lorikeets, and they didn't solve the problem.

Purple-crowned Lorikeets have apparently built up to their pre-Ash Wednesday numbers in neighbour's eucalypts and Fyans Park.

. . . and other birds

On 20 January 1985, a dull, cool morning at about 8 a.m., two Eastern Shrike-tit parents were feeding two begging young, in a eucalypt at the edge of the river at Fyans Park.

On 6 January 1985 at 1.30 p.m. there was three young silvereyes snuggled up very tightly on a branch of the pink camellia in our garden. There was a cold wind, and every time an extra gust came, leaves rattled and they would all open their eyes and sometimes open their beaks! The parents were very busy flying around and feeding one or other of them. By 17 January, 1985 the three were still being fed by the parents, but they were starting to find insects for themselves on the camellia leaves. The white circle around the eyes was becoming clearer, where it had been all but nonexistent before – but not yet as definite as that of the parents.

Yellow-faced Honeyeaters were back in the garden on 6 May 1984 and left at the end of October; White-naped returned on 27 May 1984, and left at about the same time as the Yellow-faced. Eastern Spinebills haven't been around very much – one was recorded in a nearby garden on 18 June 1984.

It's always a pleasure to hear the creaky call of the Gang-gangs when they return, as about 20 did at 6.30 a.m. on 23 December 1984 – they still line up on the clothes-hoist and take turns to fly to the birdbaths. It's interesting to see how that beak becomes a round O as they raise their heads from drinking; they call in in the mornings and at dusk for a drink. Their various calls are interesting – the oddest one is when they NEARLY sound like a Kookaburra, the next oddest is a sort of whirring noise. I've seen one making the Kookaburra noise and standing on a bough flapping his wings very fast. But so far my favourite Gang-gang call is the one that sounds like a very large very cross cat-growl – it is a deep note, two syllables! And they do love our almond trees!

We had the Black-faced Cuckoo-shrike in the garden in April 1984, (there were 3 on 3 December 1983), and on 16 May 1984 one was calling in our Cootamundra Wattle, then flew to the top of the central post of the clothes-hoist, then fast to a pear tree to grab something – then into the satsuma. On 16 November 1984 at about 2 p.m., two Black-faced Cuckoo-shrikes were moving about in the eucalypts and up to the top of the Cootamundra, with a lot of small birds in attendance. The Cuckoo-shrikes made their usual call to start with and then lots of little liquid murmur calls.

Golden Whistler called in to the garden in June, August, and September 1984.

This doesn't really indicate much about birdlife in the garden – the Crimson Rosellas in their season – the Swans or Pelicans aloft occasionally, also the Sacred and Straw-necked Ibis skeins. There's a dawn chorus mentioned in the field-book on 2 December 1984 – started by a beautiful aria from Song-thrush, soon joined by Blackbirds, then Silvereyes, with an occasional bark from a Red Wattlebird, an occasional few notes from Magpie-larks, then the stars, the magpies' duet of carols. When all the neighbourhood is still, there is also the background orchestration of Reed-warblers in summer.

Theo Trickett, 37 Craigie Road, Newtown, 3220.

Observing the White-throated Nightjar *Caprimulgus mysticalis* in the Brisbane Ranges — An Alternative to Eyestrain

Lawrie Conole

Owing to the well known ability of true nightjars *Caprimulgus* to resemble the forest floor on which they roost, scouring hillsides for a glimpse of the White-throated Nightjar at roost before flushing can be a trying and unsuccessful venture. Whilst not claiming 100% success by my method, I can say that it is less traumatising for nightjars and birdos alike.

This method, developed as a by-product of bat trapping in the Brisbane Ranges, simply involves taking up a comfortable seat in a clearing with a waterhole around dusk in or near stony ridge terrain. At the period around dusk when bats become active and feed on insects around and over the water – so too do the nightjars.

In retrospect I would suggest that one refrain from using a spotlight as I believe it deters the bird from returning to the dam that night after being "spooked" by the light. However, if one sits quietly (and patiently) with a clear view of the sky above, one may be rewarded with excellent views of feeding White-throated Nightjars.

By this method, I have seen the White-throated Nightjar on numerous occasions at Staughton Vale and Sapling Gully. Previously, by creeping out to the famous roost near Nelson's Lookout, I have only managed fleeting glimpses of flying birds. I now expect to find that the species is widespread, if uncommon, in the Brisbane Ranges.

If one is familiar with the eerie laughter that characterises the call of this bird, and is prepared to sit (with mosquito repellent in hand) at the numerous fire dams in the Brisbane Ranges, I look forwad to hearing that indeed the White-throated Nightjar is widespread and present in good numbers throughout the warmer months of the year.

I would be pleased to receive your past and present records of nightjars (Owlet-Nightjar, White-throated Nightjar and Spotted Nightjar) from the Geelong district for the purpose of writing a review of this group in the Geelong-Otway region.

L.E. Conole, 85 Clarence Street, West Geelong, 3218.

Wintertime in the Bogong High Plains

Valerie and Alban Lloyd-Jones

The beautiful high plains and mountains of north-east Victoria are forever changing as each season unfolds.

On 25 August, 1984 we set off on a day trip ski touring after a very heavy snowfall. The weather was cold and overcast and snowflakes were lightly falling. The scenery was so beautiful, like a picture postcard. Each side of the track many branches of the snow gums *(E pauciflora alpina)* were bowed to the ground with a heavy mantle of snow. As we skied, our skis sank down about 4 inches into fresh virgin snow. Large wind drifts of snow and huge cornices at times appeared near the track.

Wild life in this hostile environment is scarce, but not entirely absent. We spotted a hare running down the gully and other tracks, possibly of wombats, leading to the creeks. We came upon a small flock of Yellow-tailed Black Cockatoos *(Calyptorhychus funereus),* hearing their noisy cries before we spotted them tearing away at the snow gums with their sharp beaks searching for larvae. A lovely sight on the white snow was the vivid red of the Flame Robins *(Petroica phoenicea),* which are numerous in the stunted snow gums.

Following the snow poles we arrived for lunch at Wallace's hut, built in the 1890's as a refuge for the cattlemen. The hut was buried to the roof and a tunnel had been dug down to the door.

The icy wind was in our face on our return journey, so it was a fast trip back to our car, following our outgoing tracks.

Driving home down the mountain we stopped to check a tyre. Investigating numerous bird calls we looked down into the gully and saw a Superb Lyrebird *(Menura novaehollandiae)* displaying on its mound about 15 metres down from the edge of the road. He was going through all his repertoire of mimicry. We recognised Eastern Whipbird, Yellow-tailed Black Cockatoo, Currawong, Grey Shrike-thrush and Kookaburra. He went through short pieces of these and more, over and over, while his beautiful tail quivered and trembled. We watched for quite a while until rain and cold forced us to leave.

It was a wonderful ending to our day.

Valerie and Alban Lloyd-Jones, 6 Armitage Court, Belmont, 3216.

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MUSEUM OF VICTORIA
24 APR 1986

Editorial

Your delighted editor is proud of this issue – there's only one article about birds! Not that birds aren't fascinating, but other things in nature are just as interesting to our members. I hope more of our less ornithological readers will be encouraged to write about frogs or spiders, fish or sedges ....

On a less cheerful note, this issue sees a return of what was once all too regular a feature, Errata! I apologize to both the authors concerned and we'll try not to let it happen again.

Finally, the recent changes in the administration of conservation and land management in our region, and the recent noisy calls for "development" of Swan Bay, Sand Island at Queenscliff, and Mud Island, both focus attention on the useful work our Club and our journal can do. We can collect and publish accurate information which documents the flora and fauna of our area, to ensure that Club members are well-informed when they need to speak up for conservation of important areas, and to persuade other people that birds, animals and plants, and the natural environment, are worth saving for the future.

MUSEUM OF VICTORIA
24 APR 1986

The Little Whip Snake — a Victim of Wildfire?

Martin Schulz

Very little is known about the effects of fire on snakes and most other reptiles in Australia. For most snakes, this is due in part to their secretive habits, which make it difficult to monitor populations constantly. However, the Little Whip Snake *Unechis flagellum* is comparatively easy to locate, due to its habit of sheltering under rocks during the day, so that information can be collected on the presence or absence of the species and on changes in population numbers. This small secretive species is abundant in rocky localities west of Melbourne (Rawlinson, 1965). In this region it occurs predominantly on well-drained ground in open woodland and grasslands.

Some idea of how this species is affected by fire may be obtained from a series of counts of a population, which were conducted before and after the January 1985 wildfire in the Stockyard area of the You Yangs Forest Park. From 1979 to 1984, during the winter months, seven 60 minute counts were conducted (Table 1). The counts involved covering a similar area each visit and turning over all movable rocks encountered. All rocks were replaced, so as not to affect the fauna living underneath. Subsequent to the January fire, a similar count was made on 4 August 1985.

Prior to the fire the seven winter counts averaged approximately 30 individuals, with a range of 24 to 33 individuals (Table 1). The count after the fire revealed only four individuals and two of these were located in patches of unburnt vegetation. Therefore, the Little Whip Snake population appears to have undergone a significant reduction since the fire.

A control population in grassland adjacent to the Austin Road Lagoons, Werribee Sewerage Farm, did not vary significantly in numbers (Table 1). Although this site experiences similar climatic conditions to the You Yangs locality, it was not affected by the January 1985 wildfire. The contrast in the two populations therefore suggests that the decline of the Little Whip Snake at the You Yangs site was a result of the fire.

The adverse effect of fire on a snake population has not previously been reported in the literature from Victoria, and has important implications for current land management practices in areas where uncommon snakes occur.

Table 1

Sixty minute counts of the Little Whip Snake at the You Yangs and Austin Road Lagoon sites.

Count Date		You Yangs Site	Austin Road Lagoon Site
22.7.79		33	NA
30.7.79		24	NA
27.6.80		33	NA
27.7.81	Pre-fire	32	NA
24.6.82		32	5
30.6.83		33	5
27.7.84		27	9
4.8.85	Post-fire	4	7

Notes:

1 NA = Not Available

2 Pre-fire – 7 counts averaged 29.7 ± 1.4 (Standard error)

3 Significant post-fire reduction is supported statistically when the post-fire count is compared to each of the counts prior to the fire, using a chi-square test (x^2, $p < 0.001$, df = 1).

4 Austin Road population did not vary significantly in numbers (X^2, p 0.05, df = 1).

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M. Schulz, 167 South Beach Road, Bittern, 3918.

Black Honeyeaters and Charcoal

Trevor Pescott

The Black Honeyeater *Certhionyx niger* is a tiny, long-billed bird that rarely occurs in the Geelong region. It is, according to Graham Pizzey *(A Field Guide to the Birds of Australia)*, "a highly-nomadic honeyeater of the arid interior", whose habitat includes "inland scrub (and) eucalypt woodlands at extremities of range".

It feeds extensively on nectar, showing "a preference for red-flowered emu-bushes and flowering bloodwoods" (Blakers, Davies and Reilly, *The Atlas of Australian Birds)*. Insects form an important part of the diet of this species as they do for other nectar-feeders.

In October 1984, a large number of Black Honeyeaters was present in the mallee scrubland around Red Bluff, north of Telopea Downs, in the far north-west of Victoria.

During a mammal study in that area, Mr. Lawrie Conole noted the presence of the honeyeaters, and made comment on the birds picking up and eating pieces of charcoal from old campfires.

I had an opportunity to visit Red Bluff on the weekend of 23-24 November 1984, and found large numbers of Black Honeyeaters still present, with immature birds dominating the population.

The birds were seen on many occasions to fly down to the campfire sites, with up to 10 birds on one charcoal heap at any time.

They selected tiny pieces of charcoal, "mouthing" them as a bee-eater will handle a beetle prior to eating it – but I could not confirm the earlier observation that the honeyeaters were swallowing the charcoal.

Frequently the birds would fly away with the material in their beaks; however I could not see where they went or what they did with the charcoal.

Most of the Black Honeyeaters that I saw were immature birds or females, but on several occasions adult males were present on the charcoal.

The absolute passion the birds displayed in seeking the charcoal was demonstrated on several occasions by their landing on sticks projecting from a smouldering ash-bed. They showed no fear of the smoke that drifted up and picked pieces of cold charcoal from the edge of the smoking fireplace.

Black Honeyeater

The Black Honeyeater appears to have an affinity with charcoal – Pizzey describes the nest site as in "low scrub with dead, sometimes fire-blackened, branches", while in an article in *Wildlife* magazine (Vol. 16 No. 1, July 1952), Charles Bryant captioned his photograph as follows – "The quick, zigzag flight of this pretty Black Honeyeater may catch your eye in the country through which a bushfire has passed."

Red Bluff, at the time of my visit, showed no evidence of fire, either in blackened branches or "free" charcoal on the ground.

During the 1984 Bird Observers Club trip to Western Australia, Black Honeyeaters were seen at campfire sites, picking up white ash.

In the report on the trip, Michael Seyfort wrote in *The Bird Observer* (No. 635, Dec. 1984) as follows – "At Wubin, Mullewa and Murchison River large numbers of Pied and Black Honeyeaters were seen.... We were fascinated to watch Black Honeyeaters at several places coming down to old campfires to eat the ash from the fire.

"At the Murchison River two female Black Honeyeaters were repeatedly visiting an old campfire despite the fact that we were sitting only a few feet away. They would poke through the ashes and select small white lumps of potash, pick them up in their bill then put their heads back and swallow them.

"Kevin Coates has seen them doing this on previous occasions.... We found no evidence of these Black Honeyeaters nesting in the area at the time. Whilst we saw only females doing this, Kevin has seen a male Black Honeyeater also eating ash." (Kevin Coates was the tour organiser)

Black Honeyeaters at fireplace.

One interesting aspect of that observation is that the honeyeaters were picking up white ash, not black charcoal as I had seen.

There are various other occasions when the association of birds and charcoal has been published.

Masked Finches are known to use charcoal in their nests, while various other species have been noted "nibbling" charcoal. Whether these birds ingest the material or simply "mouth" it, and what function this activity fills, is not recorded.

Acknowledgements

My thanks are extended to Mr. Lawrie Conole for first mentioning the presence of the birds at Red Bluff, and to Ms. Belinda Gillies of the Museum of Victoria who provided the references used in this paper.

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Trevor Pescott, 44 Victoria Terrace, Belmont, 3216.

Two Probable Sightings of the Yellow-Bellied Sheathtail-Bat *Saccolaimus flaviventris* (Peters, 1867) for Bannockburn, Victoria

G.A. Baverstock

The Yellow-bellied Sheathtail-Bat *Saccolaimus flaviventris* is one of seven species of the family Emballonuridae occurring in Australia (Hall, 1984). Except for *S. flaviventris* the remaining species are restricted to tropical and arid Australia; *S. flaviventris* is the only species to occur in temperate Australia, and is apparently absent from Tasmania and South-western Australia (Richards 1983).

Very little is known about this species, mainly due to the rarity of sightings; however, it is classed as rare. It is generally accepted that it is a high and fast flier, hence the rarity of observations and collection of specimens. In *Eucalyptus* forests they feed above the canopy, but in the Mallee and open country they tend to come closer to the ground to feed (Richards 1983).

S. flaviventris are easily distinguished by the contrast between the black dorsal surface and yellowish-cream ventral surface. They have a flattened, almost dog-like head, with a long, conical, almost naked muzzle. Ears are large, thick, leathery and oval in shape (Hyett & Shaw 1980). All males have a prominent gular throat pouch, whereas females have none (Hall & Richards 1979).

The species owes its name "Sheathtail" to the structure of its tail and uropatagium. The tail membrane or uropatagium slides along the tail which enables greater manoeuvrability for scurrying while the bat is at its roost, although in flight it is not as manoeuvrable as most other species of microchiropterans.

My first probable observation of *S. flaviventris* occurred on 29 August 1984, at about 19:30 hrs., whilst travelling along the Ballarat Road, 1 Km. NW of the Bannockburn turnoff. I saw a large bat in the headlights, with a contrasting white underbelly and dark back pelage. The bat was almost twice the size of other more common genera (e.g. *Nyctophilus* or *Chalinolobus*). On this occasion the bat was flying rapidly down the road, and skimmed over the roof of the car.

The second observation occurred on 20 September 1984, within 1 Km of the first. On this occasion the bat flew across the road approximately 3 metres above the roadway. On both occasions, the long wings and rapid, relatively unmanoeuvrable flight were noted, as compared to the slower, fluttering flight of *Nyctophilus* or *Chalinolobus* spp.

I believe the two sighting to be of *S. flaviventris* for the following reasons: –

The sharp contrast in colouration between dorsum and ventrum is readily identifiable, and is not approached in other local species.

Saccolaimus flaviventris is twice the size of most other local bats, with *Tadarida australis* being the only species of comparable size in the area; however *Tadarida australia* does not have white abdominal fur, but rather the white is present as stripes in the armpits. (See Figure 1).

The long tapered wings, and rapid unmanoeuvrable flight are characteristic of *S. flaviventris*.

Although usually high fliers, in open areas they are known to feed lower to the ground (Richards 1983). The Bannockburn area in which my observations were made is farmland, with occasional isolated forest patches. I believe this is the reason the bats were flying so low to the ground, probably foraging.

Although the ecology of *S. flaviventris* is poorly understood due to the paucity of information on the species, it is commonly thought to be solitary in nature, although occasionally occurring in colonies of fewer than 10 (Richards 1983).

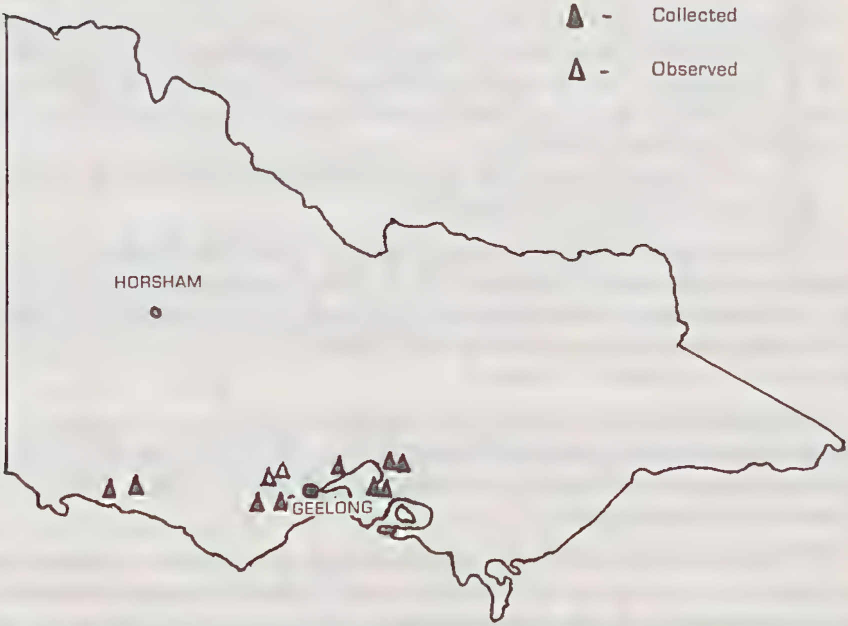
Of the three species of *Saccolaimus* occurring in Australia, *S. flaviventris* and *S. saccolaimus* are known to roost in trees. *S. flaviventris* has been found in abandoned nests of the Sugar Glider *Petaurus breviceps* in tree hollows (Hall & Richards 1979).

Figure 1

Comparison of measurements between *Saccolaimus flaviventris, Tadarida australis & Nyctophilus geoffroyii* **(Richards 1983)**

Measurements (mm)	*Saccolaimus flaviventris*	*Tadarida australis*	*Nyctophilus geoffroyii*
Head & Body	76-87 av.(83)	85-100 av. (92)	40-50
Tail Length	20-35 (29)	40-55 (43)	
Forearm	74-80 (76)	57-63 (61)	33-39
Weight	30-36g	25-40g (36)	6-8g

Figure 2
Map showing collection and observation sites in Victoria of *S. flaviventris*



It is suggested *S. flaviventris* is migratory, and those found in the open are in the course of their winter migration from cooler to warmer areas. This is further confirmed by the fact that those found in the open are generally exhausted. The specimen of *S. flaviventris* found at Warncoort, Victoria in 1969 (Conole 1981) was found in an exhausted condition on a fence post in broad daylight.

Conole (1981) recorded a probable observation of this species in the Brisbane Ranges National Park, some 15Km from Bannockburn. He also examined the Victorian specimens held in the collections of the Mammal Department, Museum of Victoria. There are only nine specimens in the collection, dating from 1909 to 1971.

Acknowledgements

I would like to thank Lawrie Conole and Ray Baverstock for comments and advice regarding the format and content of this paper, and Catherine Naylon for typing the draft.

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Mammals of the Inverleigh Common Flora Reserve: Part III

Lawrie Conole and Grant Baverstock

The mammal fauna of the Inverleigh Common Flora Reserve has been described by Conole and Baverstock (1982, 1983). This paper reports the addition of a further four species to the total recorded, bringing the number to 25 (see table 1). Protected species of fauna were handled under the provisions of a scientific permit issued by the Fisheries and Wildlife Service, Department of Conservation, Forests and Lands.

Order Diprotodonta
Family Burramyidae
Acrobates pygaeus Feathertail Glider

An individual of this species was observed feeding in blossoms of River Red Gum *Eucalyptus camaldulensis* at the western end of the Common on 12 January, 1985. This record is the only one for this area of the plains surrounding Geelong; typically the species is common but rarely seen because of its small size and lightning fast movements.

Order Chiroptera
Sub-order Microchiroptera
Family Emballonuridae
Saccolaimus flaviventris Yellow-bellied Sheathtail-bat

Until recently known as *Taphozous flaviventris, S. flaviventris* is one of several Australian Emballonurid bats for which Koopman (1984) has resurrected the sub-generic *Saccolaimus* to full generic status.

This species is apparently very rare in Victoria, and is thought to be a migrant in south-eastern Australia; but several individuals have been observed in farmland adjacent to the Common and at nearby Anakie and Bannockburn (Baverstock, 1985) in spring 1982, autumn 1983 and spring 1984. (These probable sightings are unconfirmed). *S. flaviventris* probably flies high and fast over the Common and hence has not been observed there. In farmland however, *S. flaviventris* flies at times only one to three metres above the ground, and can be indentified as it flies along and across roads.

Family Vespertilionidae
Chalinolobus morio Chocolate Wattled Bat

On 12 January, 1985, a male *C. morio* was trapped at the western end of the Common at a fire dam beside the road. It was a very small, adult bat with a forearm measuring only 33.3 mm. *C. morio* varies considerably in morphology throughout its range, but biochemical analyses have indicated that only one species is involved (Dr. C.H.S. Watts pers. comm.). However, the authors have encountered two distinct forms which are at times sympatric (Conole & Baverstock unpubl. data). The most widely encountered form is the large, dark, robust animal which typically inhabits higher rainfall and tall timbered foothill and montane forest, and suburbia. The forearm ranges from 37 to 42 mm. The less widespread, small, lightly coloured, gracile form is found in mallee, drier forests and, as at the Common, woodland. The range of forearm measurements for this form is 33 to 37 mm.

Order Artiodactyla
Family Cervidae
Axis porcinus Hog Deer

Trevor Pescott (pers. comm.) reported the presence of this, the smallest species of deer introduced into Australia, on the Common. Alledgedly, some person or persons unknown released the deer on the Common with a view to creating potential for hunting in the future.

The authors have not substantiated the presence of deer on the Common, but the boggy sedgelands found there would suit *A. porcinus* and the species may be present.

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Table 1
Mammals of the Inverleigh Common Flora Reserve

Tachyglossus aculeatus	Short-beaked Echidna	U
Wallabia bicolor	Swamp Wallaby	U
Macropus giganteus	Eastern Grey Kangaroo	U
Pseudocheirus peregrinus	Common Ringtail Possum	U
Petaurus breviceps	Sugar Glider	A
Trichosurus vulpecula	Common Brushtail Possum	A
Acrobates pygmaeus	Feathertail Glider	S
Phascolarctos cinereus	Koala	U
Pteropus scapulatus	Little Red Flying-fox	S
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	S
Tadarida australis	White-striped Mastiff-bat	A
Pipistrellus tasmaniensis	Great Pipistrelle	S
Eptesicus regulus	King River Eptesicus	U
E. sagittula	Large Forest Eptesicus	A
E. vulturnus	Little Forest Eptesicus	A
Chalinolobus gouldii	Gould's Wattled Bat	A
C. morio	Chocolate Wattled Bat	R
Nyctophilus geoffroyi	Lesser Long-eared Bat	A
**Rattus rattus*	Black Rat	A
**Mus musculus*	House Mouse	A
**Oryctolagus cuniculus*	European Rabbit	A
**Lepus capensis*	Brown Hare	U
**Vulpes vulpes*	Fox	U
**Felis catus*	Cat	U
**Axis porcinus*	Hog Deer	S

*	introduced
A	abundant
U	uncommon
R	Rare
S	status unknown

Errata: The Distribution and Status of Owls (Aves: Strigidae and Tytonidae) in the Geelong-Otway District

Lawrie Conole

Page 3 lines 6-8 – A literature record of a *Tyto* species is examined in the light of current knowledge and reidentified as the Masked Owl *Tyto novaehollandiae.*

Page 5 lines 3-11 – Other items in the diet of local Powerful Owls are Common Ringtail Possum *Pseudocheirus peregrinus* (main prey), Sugar Glider *Petaurus breviceps,* Yellow-bellied Glider *P. australis* (Otways only), Common Brushtail Possum *Trichosurus vulpecula,* Brown Antechinus *Antechinus stuartii,* European Rabbit *Oryctolagus cuniculus,* Australian Magpie *Gymnorhina tibicen,* White-winged Chough *Corcorax melanorhamphus,* Australian Raven *Corvus coronoides,* Grey Currawong *Strepera versicolor* and Laughing Kookaburra *Dacelo novaeguineae* (Seebeck 1976, Tilley 1982, Bound 1964, Conole 1981a).

Page 6 line 6 – . . . Coolibahs *E. microtheca* . . .

Page 7 line 16 – . . . the Tawny Frogmouth. . . . often erroneously called the Mopoke or Mopoke Owl . . .

Page 7 lines 20-24 – Boobooks customarily roost in medium-dense foliage of various forest trees, notably *Acacia* and *Exocarpus.* Southern Boobooks were found roosting in an introduced Pincushion Hakea *Hakea laurina* in the You Yangs (Pat Russell pers. comm.)

Page 8 line 15 – . . . in some habitats (basalt grasslands especially) the similarly sized dasyurid marsupial Fat-tailed Dunnart was equally abundant.

Page 10 line 16 – . . . . Loyn pers. comm. . . .

Page 11 lines 1-4 – The Delicate Owl to which Belcher refers is the Barn Owl, and his Grass Owl seems more likley to have been a Masked Owl *Tyto novaehollandiae,* based on the wooded gully habitat . . . .

Page 12 line 18 – *Tyto tenebricosa tenebricosa*

Page 16 line 23 – Arthur Rylah Institute

Page 17 lines 7-8 – Mees, G.F. (1964) A revision of the Australian owls (Strigidae and Tytonidae), *Zool. Verhandl., Leiden* 65:1-62.

A Bell Miner in Bacchus Marsh – Marilyn Hewish

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Cape Barren Geese, Flinders Island

Photo: Trevor Pescott

MUSEUM OF VICTORIA
24 APR 1986
NATURAL HISTORY

Flinders Island: 25-28 January, 1985

Trevor Pescott

During the Australia Day weekend 25 to 28 January, 1985, nine Club members and friends visited Flinders Island; four flew over on Friday evening while the other five arrived on Saturday morning. Three light aircraft were used for transport, one from Grovedale, the other two from Connewarre. The return flight was made on Monday afternoon.

Those who made the trip were Kate Beeston, Helen Burgess, Marilyn Hewish, Myra Kroger, Trevor Pescott, Jan Reid, Judy and Stan Rowe, and Joyce Ward.

Two hire cars were made available and the following areas were visited –

1. Wybalenna Historic Site, Lillies Bay and Settlement Point: open grassland, sandy shore and coastal scrub;
2. Killecrankie: sheltered bay;
3. Cameron Inlet: long, shallow estuary (the inlet was blocked with a sand bar), coastal scrub, and open sandy shore;
4. Trousers Point Beach: granite boulders on the shore, coastal scrub;
5. Strzelecki National Park (south end): dense tall tea-tree scrub, heathland, scattered eucalypts among tea-tree, open sandy shore.
6. Logan Lagoon: mainly dry, open estuarine flat;
7. Lady Barron: tidal flats west of town.

The following bird list was compiled :–

Hoary-headed Grebe	*Poliocephalus poliocephalus*	Four on Cameron Inlet and a few in the bay near Lady Barron.
Australian Pelican	*Pelecanus conspicillatus*	One group of 26 at Cameron Inlet and others dispersed from them.
Australasian Gannet	*Morus serrator*	Recorded off Settlement Point.
Great Cormorant	*Phalacrocorax carbo*	Four at Cameron Inlet and others at Lady Barron.

Little Pied Cormorant	*Phalacrocorax melanoleucos*	Recorded at Lillies Bay and Lady Barron.
White-faced Heron	*Ardea novaehollandiae*	One near Lady Barron.
Black Swan	*Cygnus atratus*	Very numerous on the shallow areas offshore and on the inlets.
Cape Barren Goose	*Cereopsis novaehollandiae*	The first plane in on Friday evening was 'greeted' by two on the airstrip. Flocks of various sizes scattered across the Island. Large numbers at Logan Lagoon. They were seen in small groups feeding among sheep in several places. Cape Barren Geese are a controversial topic on the Island – some of the comments heard locally were "the paddocks just moving with 'em" and they "eat twice as much as sheep". The former certainly was an exaggeration although we did see small flocks scattered among sheep. We were also told that farmers can gain a permit to destroy a limited number, and that hunters can gain access to these properties "if you shoot the eight (bag limit) – but if you don't, the farmer won't let you back". According to Green (1969), the geese were rarely seen prior to 1939 on Flinders Island, but increased during the second world war (presumably due to a drop in shooting pressure). Green records up to 500 grazing on clover pastures, but suggests the problem of pasture and dam-water fouling is localised.

Cape Barren Geese

Australian Shelduck	*Tadorna tadornoides*	Small numbers at Cameron Inlet.
Pacific Black Duck	*Anas superciliosa*	A huge flock was seen at Cameron Inlet.
Grey Teal	*Anas gibberifrons*	Several on Pat's Creek near the airport.
Chestnut Teal	*Anas castanea*	A large flock at Cameron Inlet.
Musk Duck	*Biziura lobata*	Large numbers noted at Cameron Inlet and a few off Lady Barron.
White-bellied Sea-eagle	*Haliaeetus leucogaster*	One at Cameron Inlet and another near the south coast. A third observation near Whitemark.
Marsh Harrier	*Circus aeruginosus*	Widespread and plentiful.

Brown Falcon	*Falco berigora*	Single birds recorded in various areas across the Island.
Australian Kestrel	*Phasianus colchicus*	Two at Lillies Bay and one near Whitemark.
Common Pheasant	*Phasianus colchicus*	A bird believed to be this species was seen on the road near Killiecrankie.
Pied Oystercatcher	*Haematopus longirostris*	Three at Cameron Inlet, and at Lady Barron where there were flocks of up to 12 birds and others feeding on mud-flats.
Sooty Oystercatcher	*Haematopus fuliginosus*	One at Cameron Inlet, two at south coast, and a group of at least 50 at Lady Barron, roosting on mud island off-shore.
Masked Lapwing	*Vanellus miles*	Common in grasslands and tidal flats.
Lesser Golden Plover	*Pluvialis dominica*	At least 24 at Cameron Inlet.
Hooded Plover	*Charadrius rubricollis*	One at Cameron Inlet and two at a South Coast Beach.
Red-capped Plover	*Charadrius ruficapillus*	A few at Cameron Inlet.
Eastern Curlew	*Numenius madagascariensis*	One near Lady Barron.
Red-necked Stint	*Calidris ruficollis*	About 20 at Cameron Inlet.
Curlew Sandpiper	*Calidris ferruginea*	Over 100 seen at Cameron Inlet.
Silver Gull	*Larus novaehollandiae*	Very plentiful throughout.
Pacific Gull	*Larus pacificus*	Common. Large flocks noted in the paddocks.
Caspian Tern	*Hydroprogne caspia*	Recorded at Cameron Inlet.

Fairy Tern	*Sterna nereis*	Good numbers at Cameron Inlet. Their behaviour suggested that they were nesting on the beach south of the inlet but we did not have time to verify that.
Crested Tern	*Sterna bergii*	Noted off Trousers Point and Settlement Point.
Yellow-tailed Black Cockatoo	*Calyptorhynchus funereus*	Two at Logan Lagoon and two south of Trousers Point.
Galah	*Cacatua roseicapilla*	One at Whitemark on 27 January.
Green Rosella	*Platycercus caledonicus*	Near the caravan park at Pat's Creek and in the National Park.
Shining Bronze-Cuckoo	*Chrysococcyx lucidus*	One juvenile seen in the coastal scrub near the south coast.
Southern Boobook	*Ninox novaeseelandiae*	Heard calling near Pat's Creek.
Laughing Kookaburra	*Dacelo novaeguineae*	Heard calling near Whitemark.
Sacred Kingfisher	*Halcyon sancta*	One heard at the airport as the first plane was about to leave.
Skylark	*Alauda arvensis*	Common in grasslands.
Welcome Swallow	*Hirundo neoxena*	Plentiful. Nesting at Wybalenna.
Richard's Pipit	*Anthus novaeseelandiae*	Quite common in grasslands.
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*	Small flock near Lady Barron.
Blackbird	*Turdus merula*	One seen near Lady Barron.
Dusky Robin	*Melanodryas vittata*	Several seen in the more open parts of the National Park.

Olive Whistler	*Pachycephala olivacea*	One seen at National Park, in the dense coastal scrub. Secretive but readily answered an imitation of its call.
Grey Shrike-thrush	*Colluricincla harmonica*	At Pat's Creek and in the National Park.
Grey Fantail	*Rhipidura fuliginosa*	Widespread in bushland areas.
Superb Fairy-Wren	*Malurus cyaneus*	Very plentiful across the Island.
Tasmanian Thornbill	*Acanthiza ewingii*	Reported at Lillies Bay and in the National Park.
Yellow-throated Honeyeater	*Lichenostomus flavicollis*	In coastal bushland near Cameron Inlet, in the National Park, at Wybalenna and Lillies Bay.
Strong-billed Honeyeater	*Melithreptus validirostris*	Several seen in the National Park.
Black-headed Honeyeater	*Melithreptus affinis*	A few recorded in the National Park.
Crescent Honeyeater	*Phylidonyris pyrrhoptera*	One calling in the National Park.

Feral Turkeys, Flinders Island

New Holland Honeyeater	*Phylidonyris novaehollandiae*	Quite plentiful in the National Park.
Eastern Spinebill	*Acanthorhynchus tenuirostris*	Recorded in the National Park.
White-fronted Chat	*Ephthianura albifrons*	Plentiful at Cameron Inlet, Logan Lagoon and elsewhere.
Spotted Pardalote	*Pardalotus punctatus*	Recorded from National Park.
Striated Pardalote	*Pardalotus striatus*	Noted near Wybalenna.
Silvereye	*Zosterops novaehollandiae*	In the coastal scrub at several places – typical Tasmanian colour form.
European Goldfinch	*Carduelis carduelis*	Near the airport.
European Greenfinch	*Carduelis chloris*	Near the airport where there are several cypress trees.
House Sparrow	*Passer domesticus*	Common.
Beautiful Firetail	*Emblema bella*	Small numbers seen at the National Park. Appeared to be feeding on the seeds of sedges.
Common Starling	*Sturnus vulgaris*	Widespread and plentiful.
Australian Magpie	*Gymnorhina tibicen*	Common throughout the open areas.
Black Currawong	*Strepera fuliginosa*	Quite plentiful in the National Park.
Forest Raven	*Corvus tasmanicus*	Plentiful throughout the Island.
Feral Turkey		Good numbers seen in the open areas where patches of bush have been allowed to remain. One female had several small young with her south of Whitemark, and another with young north of Lillies Bay.

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NOTE: A brief report on an earlier Club excursion to Flinders Island appears in *Geelong Naturalist* Vol. 17 No. 1 p. 20.

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The Common Wombat in the Geelong Region

G. McCarthy and T. Pescott

The Common Wombat *Vombatus ursinus* is believed extinct in the Geelong area, but there was a time when it was common in the Western District, around Warrnambool, and beyond into South Australia.

A small but robust colony lived in the Bellbrae area, and there is some evidence that they were found around Fyansford and east to the Barwon Heads Bluff.

The Bellbrae population extended from Point Addis to Torquay, Paraparap and towards Freshwater Creek. The burrows that the wombats dug were often very deep – three metres or more is recorded – and they became a haven for rabbits and foxes.

This combined with the hazard the burrows made for horsemen and the damage the wombats did to rabbit-proof fences, encouraged the land-owner to fumigate and fill in the burrows, and to trap or shoot the wombats that escaped.

So thorough was that approach that by 1890 most had been killed.

That a few survived in the area is supported by the observation of Mr. Jim Welsh who encountered two wombats when digging out ferrets from a rabbit burrow between Bellbrae and Freshwater Creek in the mid 1940's. He remembers his father telling him of wombats living in the high banks of Spring Creek near Torquay, but he knew of only rabbits in the large burrows.

As far as we can discover, that is the last record of wombats being found in that area.

In the Warrion Hills – scoria cones north of Colac – wombats were very common when the area was first settled. A report in the Colac Herald in 1888 referred to them as follows – "Amongst the animals partaken of by the Aborigines may be mentioned the wombat which mostly infested the Warrion country........ All through the Western District the wombats were found in numerous colonies, they having burrowed deeply into the beds of ash, discovered near extinct volcanoes...... The wombat has been extinct in the Colac district for many years."

Colac historian, Isaac Hebb, commented that wombats once swarmed over the Warrion country much as the rabbits did later.

Further west, wombats were once common in the Warrnambool district. Samuel Hannaford, in 1860, wrote of a botanical excursion between Lake Pertobe and the Merri River thus – "we clamber over the steep hill, passing by numerous deep holes, concealed almost by thick bushes of the Wild Raspberry, the Forget-me-not, and other of our indigenous plants; – they are the burrows of that uncouth creature, the Wombat, which is very numerous along the coast."

And again, referring to the Hopkins River near what is now Allansford – "listen to the heavy munching of the Wombat, who is feeding timidly on the grass which surrounds his burrow, into which, if he observes us, he hastens with a celerity which his looks belie."

That they were eventually eradicated is obvious from the comment of Mr. Fred Shirrefs (pers. comm.) – "My last sighting in this (Warrnambool) district was at Kirkstall (about 14 miles north-west of Warrnambool) in 1936.

"During excavations it is common to find their burrows which are about the size of fox dens. While a new swimming pool was being built in Warrnambool in 1961 several burrows were found, also a small cave which showed signs of habitation. Several bones were (also) found."

North-west of Colac, wombats survived much better, so well indeed that they fell within the vermin-bounty system that remained until the 1970's; from 1940 to 1949 for example, hundreds of wombat scalp bounty payments were made at Penshurst, Edenhope and Nhill. (Seebeck in Conley and Dennis)

Now the main populations of wombats in Western Victoria are centred in the Dergholm district (north of Casterton) and along the Lower Glenelg (Wakefield in Douglas and O'Brien). Given adequate protection, these colonies should survive and increase.

As far as the Otway Ranges themselves are concerned, we can find no evidence that wombats inhabited their forests, despite a number of reported sightings.

In their report on the fauna in the volcanic plains – Otway Ranges area, Emison et al (1975) comment about the Common Wombat – "There is no conclusive evidence to show that wombats still occur in the study area, but recent reports to this (Fisheries and Wildlife) Division suggest that some may occur along the forest margins of the Otway Range."

The reports referred to are on file at the Warrnambool Fisheries and Wildlife Service office, and cover sightings from Mt. Sabine and Barwon Downs (1966), Tanybryn (1969/70 and 1972) and Gerangamete, Barwon Downs, Barramunga/Mt. Sabine and west of Forrest (1974).

Conole and Baverstock in their paper on the mammals of the Angahook-Lorne Forest Park record the sighting of a wombat near the Erskine Falls Road in 1982 and of one killed in the February 1983 wildfire in the same area. They suggest that it may have been the same animal and possibly a pet.

In April 1985, a road-killed animal found between Benwerrin and Deans Marsh was reported as a wombat.

Unfortunately, none of these observations are supported by photographs, specimens or other evidence.

The areas occupied by the Common Wombat in south-western Victoria were invariably either scoria outcrops or soft, sedimentary rocks – they were not widely spread in the basalt country, nor in the hard sandstone Otways.

Whether this was the factor limiting the range of the species is not known.

It is possible that other aspects, perhaps relating to the Otway vegetation, were significant.

Acknowledgements

I wish to thank Mr. and Mrs. John Hunt who, in 1962, arranged interviews with elderly residents of the Bellbrae area – Messrs. Bone, Imer and Cunningham – on whose information much of the local data is based. Thanks, too, to Mr. Gavin Cerini of Warrnambool Fisheries and Wildlife Service for access to his files, and to Mr. Jim Welsh.

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Lerps

Valda Dedman

Club excursions often provide members with the opportunity to examine some of the more unusual aspects of natural history. On the specimen table at the end of the Club excursion to the Brisbane Ranges in March 1984 there was a ecucalypt leaf whose surface was dotted with white conical spots about 5 mm in diameter; there were hundreds of the same spots on leaves and on the ground under a eucalypt at the boundary of the guide camp at Moggs Creek when we visited it in May 1985.

These white patches were lerps, the protective covering of a psyllid insect, *Spondyliaspis eucalypti.*

There are some three hundred species of psyllid in Australia, most of them occurring on Eucalyptus, and many only on one specific host species or group of hosts. In the majority of species the nymphs build themselves a shelter (lerp), probably to avoid desiccation. These lerps take on many varied and often beautiful forms according to the species of insect builder. They may look like an irregular drop of candlegrease *(Lasiopsylla rotundipennis);* a scallop shell *(Rhinacola costata);* a fern leaf *(Eucalyptolyma maidenii);* bright scarlet *(Spondyliaspis rubra);* like a fine gold thread cage *(Cardiaspina tetrix).*

The ones we found appeared as small whitish cones 2 mm high and 4-5 mm in diameter. They turned yellow at the base as they dried out. Under the microscope, however, they were astonishingly beautiful sugar candy towers made up of translucent coiled and swirled threads with projections sticking out at random.

The insect constructs these "Crystal palaces" by exuding material from the anus like past being squeezed from a tube, and enlarges them as it grows in size.

"Sugar candy" is an appropriate description, for these particular lerps are sweet to the taste; mixed with gum and water they were used by the aborigines to make a sweet drink. The lerp material is almost completely soluble in water. The work "lerp" is said to be derived from the aboriginal "laarp". There have been accounts of lerp being gathered in such great quantities that the aborigines became quite fat and sleek, and the harvest extended over six weeks.

Lerps were a source of interest to early writers about Australia. George Bennett, in "Gatherings of a naturalist", published in 1860, describes lerps "forming small conical cups, covered externally with white hairs, curled in various directions". He knew them mainly on the Mallee, *E dumosa*, and I too have noticed the abundance of lerps on Mallee species in the Sunset Country of north west Victoria. Lerps were described as early as 1849 by Dr. T. Anderson in the *Edinburgh New Philosophical Journal* for July of that year.

Other sugary substances found on trees are the insect exudate, honeydew, and manna, which is a "naturally occurring or physiologically induced secretion from certain trees, but which has not passed through the alimentary canal of an insect" (Basden 1966). There appears to have been some confusion in the past in the use of the terms for the various sugary substances found on trees.

Recent analysis of lerps has shown them to be varied and complex in their chemical composition. A number are composed of starch, including that of *Eucalyptoloma maidenii*, which produces fern-shaped lerps on Spotted Gums *(E maculata)*, and of *Cardiaspina densitexta*. These are the only known examples of starch of animal origin. (Basden 1970).

Some lerps are composed of sugars such as raffinose. These are akin to the sugars originally ingested from the plant host by the insect, but subtly changed. They are entirely free of amino acids, although the sap on which the insect fed contained a great quantity. A great deal of work has been done on the analysis of lerp sugars.

The insect nymph under the lerp feeds on plant sap. When it is fully grown it crawls out and rests on the surface of the leaf while its pupal skin splits down the back. The adult psyllids are up to 10 mm long and hold their wings tent-like over the body. Many of them also exude honeydew, since they also feed by sucking plant sap. They may cause permanent damage to foliage if successive generations over several years remain on the same tree.

Birds may even aid this process indirectly. Richard Loyn, in a talk to the Bird Group of the Geelong Field Naturalists Club, described how Bell Miners fed on the lerp covering but not on the nymph beneath, even though the latter was a source of protein. The nymphs were induced to create a new shelter (in 1-2 days) and thus keep up a supply of sweet food for the Miners. Insect-eating birds, such as Striated Thornbills, were kept out of the Miners' territory through aggressive behaviour on the part of the Miners. A Bell Miner colony normally stays in one area for a long time, from two to forty years, so the likelihood of trees deteriorating or dying from psyllid infestation is quite real.

In an experiment Bell Miners were removed from an area of lerp infested unhealthy trees in the Olinda State Forest. The trees subsequently recovered, because a variety of bird species was then able to feed on both lerp covering and insect nymph. After Bell Miners were removed from the study area Loyn and his associates observed White-naped Honeyeaters, Crimson and Eastern Rosellas and Spotted Pardalotes eating psyllid insects. The small birds fed almost continuously, while Rosellas plucked leaves and drew them through their bills by foot at the rate of 48 lerps per minute! Pardalotes have been observed pecking twice, to ensure that both lerp and insect were taken; by contrast Bell Miners used their tongues to remove only the lerp.

Lerp, honeydew and manna are an excellent source of carbohydrate for many birds and a supplement to nectar as an energy-supplying food. David Paton has shown that honeyeaters shifted feeding sites in response to the availability not only of nectar in eucalypt (or other) blossom, but also of the other sugary exudates. He observed Noisy Miners, White-plumed Honeyeaters, Red Wattlebirds and Bell Miners all take lerps.

It has also been suggested that honeyeaters aggressively defending rich sources of carbohydrate may have been influential in the development of hole nesting Pardalotes, and have discouraged other small foliage-feeding birds from eating lerps (Woinarski 1983).

Knowing the food preferences of White-naped Honeyeaters, when Mike Cullen wanted to study the foraging habits of this species, he created artificial lerps with icing sugar! This was the subject of another interesting talk given to the Bird Group.

Small mammals with a sweet tooth also probably eat lerps. "Manna" has been cited as a carbohydrate food of the Feathertail Glider and Leadbeaters Possum.

So the simple lerp is not so simple. Chemically complex, it has provided food for a wide variety of creatures, including man, and has led to behaviour modifications in birds, and maybe to changes in ecosystems.

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Long Forest Excursion, 15/9/85

Marilyn Hewish

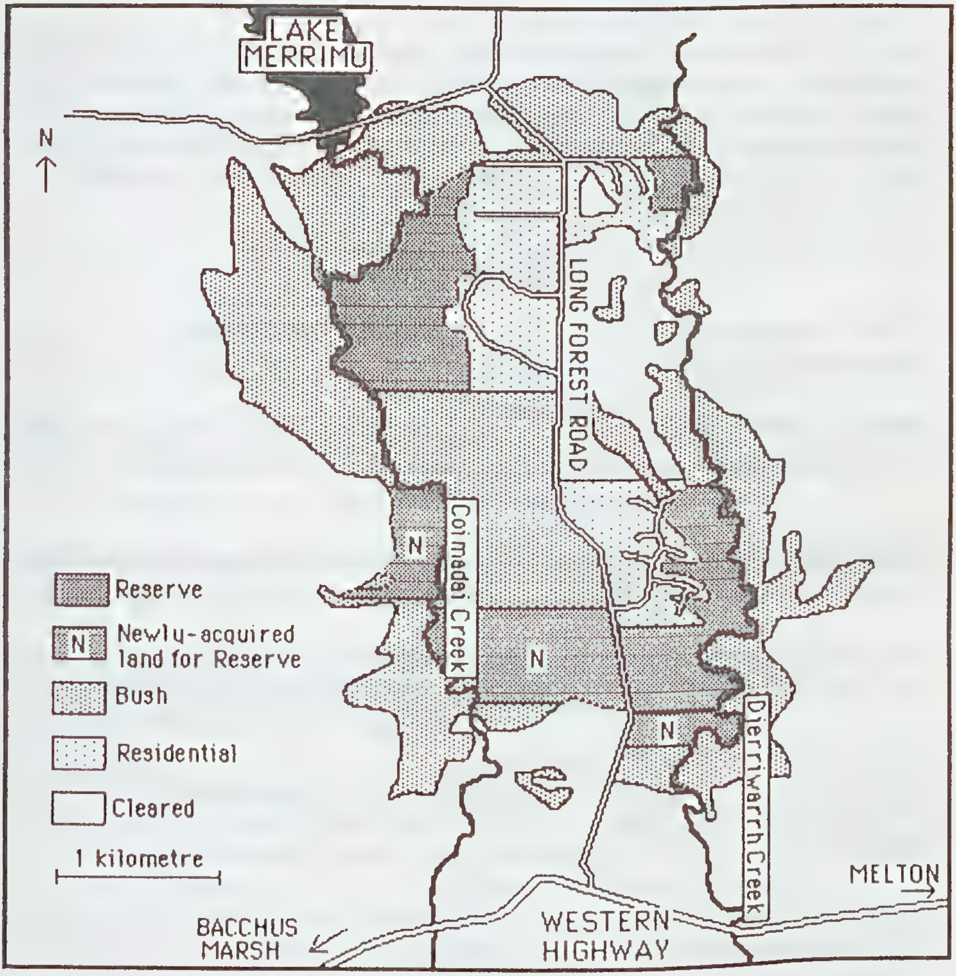
The Long Forest bushland area, covering approximately 800 ha., contains a number of different habitats; open eucalypt woodland (mainly Red Box, Grey Box, and Yellow Gum), interspersed with the famous pure stands of Bull Mallee, as well as cleared areas. This diversity and the permanent pools in the two creeks attract a variety of birds, and 136 species have been recorded in the area since 1973.

The mallee/woodland association, unique south of the Divide, is home to a number of bird species which are more commonly associated with the drier, northern areas of Victoria. Observations made in 1973-4 by members of the Bird Observers' Club include records of the Crested Bellbird, White-browed Babbler, and the Southern Whiteface. None of these occur elsewhere near Melbourne, their closest occurrences being in the mallee areas near Bendigo, approximately 120 km. away. More recent observations (1984-5, Rosemary and Michael Baker, Marilyn Hewish) have confirmed the presence of the Crested Bellbird, and added the mallee specialist, the Yellow-rumped Pardalote, to the bird list. Other species, which are moderately common in the Long Forest but uncommon in surrounding areas (Pescott, 1983), are the Speckled Warbler, Weebill, Yellow Thornbill, Diamond Firetail, and Zebra Finch.

On the G.F.N.C. excursion on 15/9/85, members recorded 36 bird species in the Coimadai (north-western) and Djerriwarrh (south-eastern) sections of the Reserve, and along Long Forest Road. Birds were most abundant along the two creeks, and in the Coimadai section, where the understory (predominantly Melaleuca and Acacia species) was denser. There were fewer birds in the Djerriwarrh section, with its more open woodland and sparse understory.

Two active nests were found. A Grey Currawong was seen feeding two chicks in a nest in a Bull Mallee by Canopus Circuit. In the Djerriwarrh section, a Common Bronzewing was flushed from a nest with two chicks. The nest, in a Grey Box, was a few tangled sticks in a fork of the trunk, and with the chicks keeping absolutely still, it was remarkably well camouflaged and difficult to see, although only a metre above the ground. We were shown two old Wedge-tailed

Eagle's nests on a slope overlooking the Coimadai Creek. A pair of adults was perched above one nest, which had been freshly lined with eucalyptus leaves, but it was probably too late in the season for breeding to begin.



The Long Forest

Despite the declaration of the three sections of Reserve, most of the Long Forest bushland, including the largest areas of mallee, is still on private land. With subdivision and clearing it has become fragmented, and what remains is under severe pressure from disturbance by residents, building activities, traffic and trail bikes, domestic pets, and shooters. There are only 800 ha. of mallee-woodland remaining, and so the population sizes of the dry-country birds relying on this 'island' habitat must be limited, leaving them susceptible to extinction. Hopes for its preservation have been raised, however, by the Department of Conservation, Forests, and Lands' recent announcement of purchase of land to extend the present Reserves. This is a welcome step towards providing a continuous, protected and viable bushland.

Bird List

Great Cormorant *Phalacrocorax carbo*	One flying over road.
Wedge-tailed Eagle: *Aquila audax*	2 perched in bare tree on a ridge overlooking Coimadai Creek. Near a nest.
Silver Gull: *Larus novaehollandiae*	1 flying over Coimadai section of Reserve.
Common Bronzewing: *Phaps chalcoptera*	An adult flushed from a nest containing 2 chicks in a Grey Box tree, Djerriwarrh section of Reserve.
Galah: *Cacatua roseicapilla*	Pair in dead tree beside Coimadai Creek, and several flying over Djerriwarrh Creek.
Sulphur-crested Cockatoo: *Cacatua galerita*	Several birds heard in Coimadai section of Reserve.
Crimson Rosella: *Platycercus elegans*	A few small groups seen in both sections of the Reserve.
Eastern Rosella: *Platycercus eximius*	One pair seen in roadside trees.

Fan-tailed Cuckoo: *Cuculus pyrrhophanus*	A single bird heard calling near Coimadai Creek.
Horsfield's Bronze-Cuckoo: *Chrysococcyx basalis*	One bird heard calling in the Coimadai section, and one by the Djerriwarrh Creek.
Shining Bronze-Cuckoo: *Chrysococcyx lucidus*	One bird Heard calling by the Djerriwarrh Creek.
Laughing Kookaburra: *Dacelo novaeguineae*	Heard calling in the Djerriwarrh section.
Black-faced Cuckoo-shrike: *Coracina novaehollandiae*	Single bird heard and seen in the Djerriwarrh section.
Scarlet Robin: *Petroica multicolor*	Several birds heard in both sections of the Reserve, and two males seen.
Golden Whistler: *Pachycephala pectoralis*	Commonly heard in both sections of the Reserve.
Grey Shrike-thrush: *Colluricincla harmonica*	A few birds heard calling in the Coimadai section.
Restless Flycatcher: *Myiagra inquieta*	One bird heard calling along the roadside.
Grey Fantail: *Rhipidura fuliginosa*	A few birds heard calling, mostly along the creeks.
Superb Fairy-Wren: *Malurus cyaneus*	Commonly heard and seen in both sections of the Reserve.
White-browed Scrubwren: *Sericornis frontalis*	A few heard and seen along the two creeks, and in bushy roadside vegetation.
Brown Thornbill: *Acanthiza pusilla*	Several birds heard and seen in bushy growth, in both sections of the Reserve.

Buff-rumped Thornbill: *Acanthiza reguloides*	A single bird feeding on the ground at the edge of the mallee, Coimadai section.
Yellow Thornbill: *Acanthiza nana*	Small party in Melaleuca bushes, Djerriwarrh section.
Striated Thornbill: *Acanthiza lineata*	Several parties feeding in the upper foliage, both sections of the Reserve.
White-throated Treecreeper: *Climacteris leucophaea*	A few birds heard calling in both sections of the Reserve.
Red Wattlebird: *Anthochaera carunculata*	A few birds heard in the Coimadai section, and seen in roadside trees.
Yellow-faced Honeyeater: *Lichenostomus chrysops*	One bird heard calling in the Coimadai section, and a pair seen in vegetation by the Djerriwarrh Creek.
White-eared Honeyeater: *Lichenostomus leucotis*	A single bird heard calling along the roadside.
Brown-headed Honeyeater: *Melithreptus brevirostris*	One bird heard calling along the roadside.
Striated Pardalote: *Pardalotus striatus*	A few birds heard in both sections of the Reserve.
Silvereye: *Zosterops lateralis*	One party seen in woodland above Coimadai Creek.
White-winged Chough: *Corcorax melanorhamphos*	One party heard calling in the Coimadai section. Another feeding on the ground in woodland above the Djerriwarrh Creek.

Magpie Lark: *Grallina cyanoleuca*	One bird heard in roadside trees beside a cleared area.
Australian Magpie: *Gymnorhina tibicen*	Commonly heard and seen in all areas.
Grey Currawong: *Strepera versicolor*	Commonly heard and seen in both sections of the Reserve. A nest was found in roadside mallee, in Canopus Circuit, with an adult feeding two chicks.
Little Raven: *Corvus mellori*	Heard and seen in all areas, usually flying. Singly, or in small parties.

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A Wire-mesh Enclosure to protect Small Birds at a Garden Feeding–Bottle

Theo Trickett

In my remarks on the Rainbow Lorikeets in our garden in the Geelong Naturalist (May 1985) I mentioned a wire-mesh enclosure for the small birds, from which a young Rainbow Lorikeet was unable to get out on his own.

My aim in designing this enclosure was to enable the small birds such as Silvereyes, New Holland and White-plumed Honeyeaters to have their nectar in peace, separate from the larger birds. My theory was extended to the idea that House Sparrows (greedy eaters of honey) would be too fat to get through the netting and Tree Sparrows rarely bothered about the nectar.

Heath Robinson would have considered the design very elementary. So did the sparrows. But it does keep the larger birds out, except that very rarely – only two or three times – a Rainbow has somehow got in and now and again a Red Wattlebird enjoys a binge on nectar free of *all* competition.

With Norm Povey, we brought the foot-ring to within 7.5 cm (3") of the point of nectar delivery. This was so that silvereyes would not have to stand on tip-toe and stretch up for nectar. Then our (occasional) gardener put in three garden stakes, and made an enclosure with wire (about 5 x 3 cms (2 x 1¼") in size) so that any point of the mesh was about 23 cms (9") from the nectar bottle – so that even a Wattlebird couldn't stretch his neck in to it. Then a roof of plastic mesh was put on, with a hole cut so that the nectar bottle could be put in to the bottle clamps.

Having given myself and everybody else a headache with the construction of this contraption, installed about three years ago, it was fun to watch silvereyes and honeyeaters skip in and out of it and enjoy nectar, free of the larger birds.

And at least the House Sparrows do have to squeeze themselves through the mesh! If a wattlebird gets in to the enclosure, it soon finds its way out when the nectar-bottle is removed; the very few Rainbows who get in, find it difficult to get out, even then.

Mrs. T. Trickett, 37 Craigie Rd., Newtown 3220.

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Editorial

The lateness of this issue is the Editor's fault – I apologize.

The contents, however, are worth waiting for – three new authors, and a new artist: Joy Pearce has illustrated her seal article herself. The Bird Report for 1984 has been a collaborative effort, but a tremendous amount of work for Pat Russell putting it all together. All of us can contribute to projects like this – its *our* magazine. How about a survey of butterflies round Geelong?

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NATURAL HISTORY

Geelong Area Bird Report – 1984

Patrick Russell

Introduction

This report was written using the information in Trevor Pescott's *Birds of Geelong* (1983) as base line data. Fuller information about status and earlier records are in Pescott's book.

I have included some observations which are not unusual, in the hope of encouraging more reporting.

The seabird observations were increased by wild gales which occurred on 14 August. Many seabirds were washed up on local beaches, and there were many unusual sightings, particularly at the entrance to Port Phillip Bay.

Black-browed Albatross – *Diomedea melanophrys*
19 August. 1 off St. Helens Beach, North Geelong (TWP)

Grey-headed Albatross – *Diomedea chrysostoma*
16 August. 1 off Pt. Lonsdale. (LC)

Yellow-nosed Albatross – *Diomedea chlororhynchos*
14 August. Several off Pt. Lonsdale, 1 off Queenscliff. (LC)

Shy Albatross – *Diomedea cauta*
14 August. 2 off Pt. Lonsdale, 1 off Queenscliff. (LC)

Southern Fulmar – *Fulmarus glacialoides*
14 August. 2 off Pt. Lonsdale. (LC)

Cape Petrel – *Daption capense*
15 August. Up to 3 off Pt. Lonsdale (LC, MAC)
19 August. 2 off Pt. Lonsdale (MAC)

Kerguelen Petrel – *Pterodroma brevirostris*
14 August. 6 to 8 off Pt. Lonsdale, 1 beachwashed. (LC)
1 off Ocean Grove (LC)

Blue Petrel – *Halobaena caerulea*
14 August. 1 off Pt. Lonsdale, 2 beachwashed. (LC)
15 August. 1 off Pt. Lonsdale (LC)

Black-browed Albatross Photograph: M. Cameron

Hutton's Shearwater – *Puffinus huttoni*

14 August.	1 beachwashed at Pt. Lonsdale and 1 beachwashed at Ocean Grove (LC)
15 August.	Up to 4 off Pt. Lonsdale, distinguished from the more common Fluttering Shearwater *Puffinus gavia* by underwing pattern (LC)

Cattle Egret – *Ardeola ibis*

6 February.	Several in breeding plumage at Werribee (BBB)
6 February.	16 including 4 in breeding plumage at Lara (GG)
30 May.	Approx. 300 at Deakin University (MAC)

Australasian Bittern – *Botaurus poiciloptilus*

24 June.	1 at Reedy Lake (PR)

Royal Spoonbill – *Platalea regia*

23 December	Group of 15 at Reedy Lake, several in breeding plumage, several juvenile. Most likely bred there, but breeding could not be confirmed. (PR, MB)

Magpie Goose – *Anseranas semipalmata*

15 December	2 at Reedy Lake (MAC), probably from Serendip.

Plumed Whistling Duck – *Dendrocygna eytoni*

8 April.	8 at a dam near Birregurra (KW)
	2 had been recorded at Birregurra several times during 1983 (PR)

Maned Duck – *Chenonetta jubata*

24 June.	4 on Stingaree Bay shoreline (PR)

Pink-eared Duck – *Malacorhynchus membranaceus*

	Observed with spotlight once, and heard every month, flying over Geelong West at night, usually south to north (LC)

Blue-billed Duck – *Oxyura australis*

Sept to Dec.	4 at Lake Lorne, Drysdale (MAC).

Black-shouldered Kite – *Elanus notatus*

Early March.	Adult with 4 juveniles at Drysdale (RC)

Whistling Kite – *Haliastur sphenurus*

31 August.	1 adult sitting on the nest opposite the Geelong Equestrian Centre, Bellarine Highway (PR, JB-P).
16 October.	1 adult on the same nest (PR)
18 October.	1 adult and one nestling observed (PR, LC)
10 November	1 adult and one nestling observed (PR)

Grey Goshawk (White phase) – *Accipiter novaehollandiae*

21 February.	1 upstream from Fyans Park (RBL)
March.	1 at Queens Park (TC)
11 May.	1 at Queens Park (RBL)
7 June.	1 at Buckley's Falls (RBL)
24 June.	1 at Buckley's Falls (RBL)
14 October.	1 at the Saddle, You Yangs (LC)

White-bellied Sea-Eagle – *Haliaeetus leucogaster*

13 March.	1 immature at Moolap (LC)

Little Eagle – *Hieraaetus morphnoides*

31 March.	1 feeding on a rabbit at Avalon Airfield (PR, MB)
21 April.	1 over Big Rock, You Yangs (PR, PM)

Black Falcon – *Falco subniger*

June.	1 at Bellarine Highway near Queenscliff (LC)
2 December.	1 at 13th Beach, Barwon Heads (MAC)

Australian Hobby – *Falco longipennis*

Feb – July.	Single birds seen by PR in Newcomb-East Geelong as follows: Newcomb: 13 February, 23 April, 3 May, 23 June; East Geelong Cemetery: 1 March; Point Henry/Moolap salt pans: 22 April, 28 April; Eastern Park: 7 April, 14 May, 21 July.
4 April.	1 near Waurn Ponds Hotel (MAC)
14 July.	1 over Swan Island, Queenscliff (PR)

Also recorded throughout the year in Belmont (GP) and Newtown in January, June, July, August, November, and December when presumably the same bird made almost nightly visits just near or just after dusk (CM).

Lewin's Rail – *Rallus pectoralis*

26 May.	Approx 25 RAOU and GFNC members observed 1 chasing an Australian Crake *(Porzana fluminea)* at the Pt. Wilson Spit (JB-P).
May to Oct.	Regularly seen near the mouth of the Little River (MAC, MH, PR, JB-P, etc.)

Spotless Crake – *Porzana tabuensis*

26 May.	Approx 25 RAOU and GFNC members observed 2 at Swan Island, Queenscliff (JB-P).
25 October.	1 adult with 1 juvenile at Pt. Henry Swamp (LC)

Eurasian Coot – *Fulica atra*

January. Up to 5 pairs nesting at Belmont Common Swamp (TWP, MAC, PR)

November. Up to 7 pairs nesting at Belmont Common Swamp (MAC)

Red-kneed Dotterel – *Erythrogonys cinctus*

24 June. 5 at Hospital Lake south (MAC, PR)

8 July. 7 at Austin's Lagoon (PR, MB)

4 August. 20 at Austin's Lagoon (MAC)

Large Sand Plover – *Charadrius leschenaultii*

15 March. 1 at Sand Island, Queenscliff (PR, JB-P)

Black-fronted Plover – *Charadius melanops*

22 Sept. 1 heard at the newly constructed Education Institute Lagoon, Eastern Park (CM) (first record at this lagoon)

14 October. 1 seen at the Education Institute Lagoon (CM)

27 October. 2 at the Education Institute Lagoon (CM)

28 October. 2 at the Education Institute Lagoon (CM)

Black-winged Stilt – *Himantopus himantopus*

28 October. 2 at Education Institute Lagoon (CW) (first record at the new lagoon)

Red-necked Avocet – *Recurvirostra novaehollandiae*

Oct to Nov. Alarm behaviour by a pair suggested they probably nested at the Moolap saltpans near "the mount" on the Pt. Henry Road (MAC).

Whimbrel – *Numenius phaeopus*

9 February. 1 at Sand Island, Queenscliff (PR, JB-P)

Latham's Snipe – *Gallinago hardwickii*

19 February. 21 caught in mist nets and banded at Point Henry swamp (MAC, IS, PR, etc)

11 December. 1 at Education Institute Lagoon (CM) (first record at this new lagoon)

Buff-breasted Sandpiper – *Tryngites subruficollis*

20 January. 1 at Spectacle Ponds, Pt. Cook (MH, MAC) Other observations (JB-P, etc.) suggest this bird remained in the area for approximately 2 weeks.

White-fronted Tern – *Sterna striata*

15 August. 1 off Pt. Lonsdale (LC)

Fairy Tern – *Sterna nereis*

Late Spring to Summer.	55 pairs nested on a small sand island on the end of the South Spit at Pt. Wilson (IS)

Gang-gang Cockatoo – *Callocephalon fimbriatum*

20 March.	4 at Belmont (GR)
31 Mar to 1 April.	6 at St. Albans Homestead (MAC)
28 April.	16 at cnr. Anglesea and Mt. Duneed Road (MAC)
Early August.	Several in Herne Hill (IS)
3 August.	5 at Connor Street, East Geelong (MAC)
24 August.	4 drinking at bird bath in Belmont garden (TWP)
1 September.	2 drinking at bird bath in Belmont garden (TWP)
	Possibly fewer recorded in Geelong than in previous years.

Galah – *Cacatua roseicapilla*

5 May.	Pair Botanical Gardens (CM)
4 September.	Pair inspecting large hollow in Sugar Gum in Eastern Park west of Botanical Gardens for several weeks (IR)
23 Sept.	Pair over Botanical Gardens (CM)
6 October.	Total of 8 in two parties of 6 and 2 in Eastern Park (CM)
7 October.	Heard in Eastern Park (CM)
14 October.	10 in west section of Eastern Park (CM)
24 October.	12 in two parties of 8 and 4 in Eastern Park (CM)
27 October.	6 feeding on ground west of Botanical Gardens (CM)

Long-billed Corella – *Cacatua tenuirostris*

14 October.	25 between Ocean Grove and Point Lonsdale (GT)

Little Corella – *Cacatua sanguinea*

March.	2 feeding with Silver Gulls at the mouth of the Werribee River (BBB)
June.	2 with a flock of Galahs at Leopold (TW)
June-July.	2 flying over Bellarine Highway, Leopold (LC)

Sulphur-crested Cockatoo – *Cacatua galerita*

22 August.	1 at corner Pt. Wilson and Melbourne Roads (MAC)
	Usually observed closer to You Yangs or other forested areas.

Cockatiel – *Nymphicus hollandicus*

30 June.	1 flying over Newtown (CM)

Ground Parrot – *Pezoporus wallicus*

28 Dec.	1 observed at Blanket Bay heathland near Cape Otway. 8.30-9.15 p.m., at least 2 heard, possibly as many as 5 (PR, MB)

Swift Parrot – *Lathamus discolor*

May-June.	Up to 12 seen at Hopper's Crossing (BBB)
15 July.	Several observed near Big Rock, You Yangs, by GFNC members on a club excursion
29 July.	Several seen at You Yangs; they remained there until late September (LC)

Eastern Rosella – *Platycercus eximius*

10 Nov.	Nest in stump, eggs below ground level. "Hutchinson's Bush", Swan Bay Road, Ocean Grove (JB-P, PR etc.)

Blue-winged Parrot – *Neophema chrysostoma*

15 January.	Pair of adults with begging young at corner of Bambra and No. 2 Road, Anglesea (burnt out area) (MAC)

Elegant Parrot – *Neophema elegans*

28 July.	1 at Pt. Wilson (RL per MAC)

Orange-bellied Parrot – *Neophema chrysogaster*

24 March.	1 at Sand Island, Queenscliff (VD) The first local arrival after the summer breeding season in Tasmania.

Pallid Cuckoo – *Cuculus pallidus*

April.	1 calling at Herne Hill (IS).
Early August.	1 calling in Drysdale (RC)
30 Sept.	1 at cnr. Forest and Anglesea Roads, apparently the first spring record for the Anglesea area (MAC)
7 October.	Very common in Anglesea area (MAC).

Black-eared Cuckoo – *Chrysococcyx osculans*

29 July.	1 at The Saddle, You Yangs (LC)

Shining Bronze-Cuckoo – *Chrysococcyx lucidus*

27 October.	1 at Connor Street, East Geelong (MAC)

Powerful Owl – *Ninox strenua*

Winter-spring	Pair raised 2 young near Steiglitz (HD)
Mid-June.	1 at Iron Bark Basin (GM)

Australian Owlet-nightjar – *Aegotheles cristatus*

29 July.	1 at East Flat, You Yangs (LC, MAC)
1 Sept.	1 at East Flat, You Yangs (LC, PR, PM)

Sacred Kingfisher – *Halycon sancta*

February.	1 heard in Eastern Park over a period of weeks (GB)
15-16 Oct.	1 feeding in garden compost heap, Corio (MB)
November.	1 feeding in garden, Herne Hill (IS)

Rainbow Bee-eater – *Merops ornatus*

3 March.	15-18 at Big Rock, You Yangs. Several landed on the nearly vertical face of the rock and appeared to take insects from it. (PR, MB)
17 Nov.	2 over Eastern Park (GB)

Welcome Swallow – *Hirundo neoxena*

19 February.	1 partial albino observed at the MMBW Sewage Farm, Werribee, by members of the GFNC on a club excursion.

White-winged Triller – *Lalage sueurii*

25-27 Oct.	Several at Deakin University. Earliest spring record for that area (MAC)

White's Thrush – *Zoothera dauma*

11 August.	1 in a ferny gully, Brisbane Ranges (LC, PR)

Pink Robin – *Petroica rodinogaster*

22 July.	1 male and 2 female at the You Yangs (LC)

Red-capped Robin – *Petroica goodenovii*

22 July.	1 at West Plantation, You Yangs (LC)
29 July.	1 at East Flat, You Yangs (LC)

Hooded Robin – *Melanodryas cucullata*

17 June.	1 male at Big Rock, You Yangs (MB)
21 July.	1 male at Big Rock, You Yangs (PR)
29 July.	2 females or juveniles East Flat, You Yangs (LC, MAC)
26 August.	1 female at Sandy Creek Plantation, You Yangs (LC)

Eastern Yellow Robin – *Eopsaltria australis*

7 May to mid August.	1 at Geelong Botanical Gardens (CM, GB, PR, MB)

Olive Whistler – *Pachycephala olivacea*

29 July.	1 at The Saddle, You Yangs (LC)

Golden Whistler – *Pachycephala pectoralis*

7 May.	At least 3 possibly 4 present in Eastern Park (CM)
14 May.	1 heard west of Botanical Gardens in Eastern Park (CM)
18 May.	At least 2 heard in Eastern Park (CM)
Mid-August.	1 male feeding in Botanical Gardens (GB)
23 Sept.	1 immature noted in Park (CM)
27 Sept.	1 heard in Park near Institute of Educational Administration (CM)
27 October.	1 heard in Botanical Gardens (CM)

Rufous Whistler – *Pachycephala rufiventris*

July.	1 at cnr. Yarra and Ryrie Streets, Geelong (RB) and 1 several days later at Yarra Street in the Uniting Church Manse garden (RB).
22 October.	1 in Connor Street, East Geelong (MAC)

Satin Flycatcher – *Myiagra cyanoleuca*

15 Nov.	1 at Ocean Grove Nature Reserve (GT)
24 Nov.	1 feeding in Madeley Street garden, Ocean Grove (GT)

Rufous Fantail – *Rhipidura rufifrons*

March.	1 at Herne Hill (JH)
29 July.	1 at The Saddle, You Yangs (LC)

Spotted Quail-thrush – *Cinclosoma punctatum*

1 September.	Pair in water catchment area, Brisbane Ranges (PR, PM, LC)
27 Sept.	Pair at Forest Road, Anglesea (MH)

Clamorous Reed-Warbler – *Acrocephalus stentoreus*

August.	1 in garden at Thomson Street, Belmont (KB)

Rufous Songlark – *Cinclorhamphus mathewsi*

8 November.	1 at Deakin University (MAC)

Brown Songlark – *Cinclorhamphus cruralis*

2 December.	2 at Anglesea (MAC)

Southern Emu-wren – *Stipiturus malachurus*

26 April.	Small party at Forest Road, Anglesea (LC)

Rufous Bristlebird – *Dasyornis broadbenti*

13 October.	Many at Eastern View (PM)
30 Sept.	Pair displaying at Airey's Inlet lighthouse (MH)

White-browed Scrubwren – *Sericornis frontalis*

12 March.	Heard in Botanical Gardens, Eastern Park (CM)
May.	Up to 4 in Botanical Gardens (CM)
Spring.	Pair feeding young in Botanical Gardens, East Geelong. Most likely bred there. (Full report in preparation.) (CM)
27 October.	Up to 4 in Botanical Gardens (CM)

Speckled Warbler – *Sericornis sagittatus*

2 June.	1 at West Plantation, You Yangs (LC, TL)
26 August.	1 at the Saddle, You Yangs (LC)

Western Gerygone – *Gerygone fusca*

29 July.	1 at the Saddle, You Yangs (LC)

Yellow Thornbill – *Acanthiza nana*

6 October.	Small flock at the Rose Garden, Pevensey Crescent, East Geelong (MAC)

Brown Thornbill – *Acanthiza pusilla*

4 Sept.	Nest with young in hanging basket in geranium house, Botanical Gardens, Eastern Park. There had been 3 eggs. The nest was deserted soon after 4 September. (DF)

Southern Whiteface – *Aphelocephala leucopsis*

22 July.	1 at Sandy Creek Road Plantation, You Yangs (LC)

Little Wattlebird – *Anthochaera chrysoptera*

21 March.	1 at Highton (RB, GB)

Spiny-cheeked Honeyeater – *Acanthagenys rufogularis*

4-5 May.	1 heard in Botanical Gardens, Eastern Park (CM)
28 August.	2 in small eucalypt beside the Belmont Common Swamp (PR)

Noisy Friarbird – *Philemon corniculatus*

11 February.	2 at Lower Stoney Creek Picnic area (LC, GB) For details see *Geelong Naturalist*, Vol 20, no 4 (February 1984) p. 118.

Blue-faced Honeyeater – *Entomyzon cyanotis*

May.	1 in Pickworth Drive, Anglesea. Recorded in June 1984 *Angair Newsletter.*
Late Sept.	1 at Ocean Grove (BM)

Bell Miner – *Manorina melanophrys*

3 April.	1 observed in Grant St., Bacchus Marsh, and seen there regularly until 1 October (MH) For details see *Geelong Naturalist* Vol 21 no 4 (February 1985) pp. 81-84.
10 Nov.	1 at Stoney Creek Picnic Area (LC)

Yellow-faced Honeyeater – *Lichenostomus chrysops*

15 April.	2 moving north through and over Newtown garden: earliest record for Newtown in 1984. (First record for 1983 was 21 April, and for 1982, 12 flying north on 12 April) (CM)
25 April.	3 moving north, Newtown (CM)
28 April.	8 moving north, Newtown (CM)

Fuscous Honeyeater – *Lichenostomus fuscus*

22 July.	1 at West Plantation, You Yangs (LC)
29 July.	1 at East Flat, You Yangs (LC)

White-naped Honeyeater – *Melithreptus lunatus*

29 April.	Heard over Newtown. Earliest Newtown record for 1984. (First record for 1983 was 25 April; and for 1982, 17 April, when approximately 9 were moving south with 3 Yellow-faced Honeyeaters.) (CM)

Black-chinned Honeyeater – *Melithreptus gularis*

15 July.	Several seen near Big Rock, You Yangs by GFNC members on club excursion
29 July.	Up to 4 at East Flat, You Yangs (LC)
14 October.	Up to 4 at East Flat, You Yangs (LC)

Crescent Honeyeater – *Phylidonyris pyrrhoptera*

10-12 June.	1 in garden at Birregurra (PR)
11 August.	Up to 4 in a ferny gully at Brisbane Ranges (LC, PR)

New Holland Honeyeater – *Phylidonyris novaehollandiae*

September.	1 apparently copulating with a White-plumed Honeyeater (IS)

Tawny-crowned Honeyeater – *Phylidonyris melanops*

12 July.	1 at Gilbert Street, Aireys Inlet (PM)

Beautiful Firetail – *Emblema bella*

26 April.	1 at Forest Road, Anglesea. First record since Ash Wednesday fires. (LC)
21 July.	1 at Gum Flat Road, one mile east of the Gun Club (MAC)

Diamond Firetail – *Emblema guttata*

28 April.	2 near Coalmine at Anglesea. First record for the Anglesea area; though Belcher reported them from Airey's Inlet (MAC)
29 July.	Up to 8, including several juveniles at East Flat, You Yangs (LC, MAC)

Olive-backed Oriole – *Oriolus sagittatus*

October (first week).	First heard in Eastern Park (GB)
11 Nov.	1 near school at Eastern Park (MAC)

Australian Magpie-lark – *Grallina cyanoleuca*

October.	Successfully raised 2 young from a nest built on top of a light-stand at Deakin University (MAC).

Masked Woodswallow – *Artamus personatus*

7 October.	4 in a flock of hundreds of White-browed Woodswallows over Eastern Park (CM)

White-browed Woodswallow – *Artamus superciliosus*

7 October.	Large flock over Iron Bark Basin (TWP)
	Approx. 500 over Eastern Park travelling in a westerly direction (CM)
1 p.m.	Hundreds over Bambra Rd., Aireys Inlet. Hot N.W. wind. (MAC)
4 p.m.	Hundreds over Connor St., East Geelong. (MAC)
8 October.	Hundreds over Deakin University at lunchtime. (MAC)
10 October.	Approx. 2000 at Modewarre travelling in a N.W. direction (JJ)
14 October.	Several at You Yangs. (LC)
	Dozens of pairs bred successfully in the heathland on Bald Hills Rd. near Anglesea (MAC)

Pied Currawong – *Strepera graculina*

4 February.	2 adults and 1 juvenile in Highton (RB)
4 Sept.	1 in Geelong Botanical Gardens (GB)
7 Sept.	1 in Geelong Botanical Gardens (GB)
13 Sept.	1 heard in Geelong Botanical Gardens (GB) For details see *Geelong Naturalist* Vol 21, No 3 (November 1984) p 67.

List of Observers

(MB)	Mat Baars
(RBL)	Rolf Baldwin
(BBB)	Bela Bard-Brucker
(GB)	Grant Baverstock
(RB)	Ray Baverstock
(KB)	Ken Biglin
(JB-P)	John Bowden-Perry
(MAC)	Margaret Cameron
(LC)	Lawrie Conole
(TC)	Ted Conole
(RC)	Ron Creed
(VD)	Valda Dedman
(HD)	Harry Dunn
(DF)	Don Francis
(GG)	Geoff Gayner
(MH)	Marlyn Hewish
(JH)	Joyce Hunt
(JJ)	John James
(RL)	Richard Loyn
(TL)	Trevor Lumb
(GM)	Gordon McCarthy
(BM)	Bill Middleton
(PM)	Paul Moore
(CM)	Craig Morley
(TWP)	Trevor Pescott
(GR)	Graeme Rayner
(IR)	Ian Rogers
(PR)	Pat Russell
(IS)	Ira Savage
(GT)	Graeme Tribe
(KW)	Keith Whitehead
(TW)	Tim Wilson

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Pescott, Trevor, *Birds of Geelong*, Neptune Press, Newtown, Victoria, 1983.

Pizzey, Graham, *A Field Guide to the Birds of Australia*, Collins, Sydney, 1980.

Patrick Russell, 16 Banksia Court, Newcomb 3219.

Fur Seals in Bass Strait

Joy Pearce

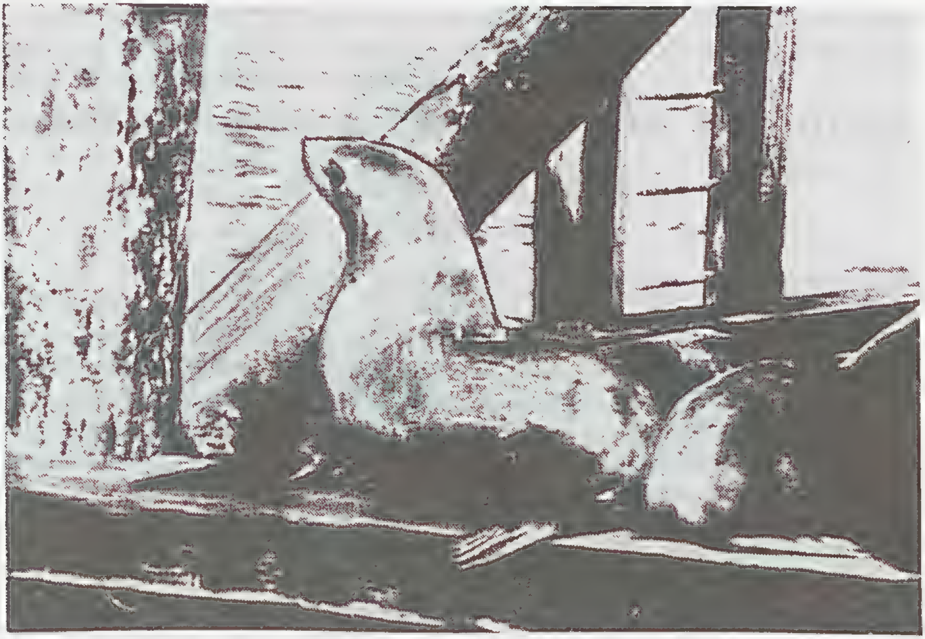
In the early days of white settlement of Australia, before the development of the Merino wool industry, products of the fur seals of Bass Strait were virtually the only exports.

Early exporters found marketing difficult, because of the monopoly of the East India Company. When Robert Campbell and Company shipped 260 tons of Sea Elephant oil and 14000 seal skins in the Indian-built Lady Barlow to London, arriving in July 1805, both ship and cargo were seized by officers of the Customs and the East India Company, and the restraint was not lifted for four months, when the oil and skins were landed for sale and export.

In 1804 sealskins were fetching from 20 to 25 shillings each in England, but in Sydney large numbers changed hands at four shillings and sixpence apiece, and seal oil at four shillings a gallon.

The sealing gangs in the Strait soon totalled about 200 men, while half the local schooners, sloops and cutters, numbering 22 at the beginning of 1804, were engaged wholly or partly in the Bass Strait seal trade.

In 1803 no fewer than 126,500 sealskins, the majority from the Strait islands, were exported. By the 1850's the fur seal had been hunted almost to extinction.



At all breeding stations numbers have now increased substantially, so that now many islands that were cleared of seals by the hunters of the eighteenth and nineteenth centuries, once more resound to the yaps, roars and squeals of the fur seal breeding colonies. Only 0.45 metres long at birth, they grow steadily through the summer, moulting in the autumn into a beautiful silver grey fur. They are weaned at the same time they leave for the sea.

On a recent trip to Fort Island we were privileged to see a large bull and several females sunning themselves on a large buoy in the Bay. On a calm day you can see them following schools of dolphins, feeding on the discarded fish. In recent times, at Lorne Pier, one has become a town pet, and children can be seen feeding it from the Pier. But seals are not to be trusted; as one woman can tell you – she received quite a nasty bite on her leg.

REFERENCE

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Mrs. Joy Pearce, 8 Patterson Ave., North Geelong 3215.

Mammals Around the Barramunga Area, Otway Ranges

Rob Wallis

During early September of 1985, the Biology 307 (Terrestrial Ecology) class from Rusden undertook a five day field trip to Barramunga and its environs in the Otway Ranges. This report presents some of the mammal studies that were performed by the group. It contains trapping data collected by the class and results of the group's predator scat analyses carried out back in the laboratory; as well, it presents some of the findings of the individual student research projects.

The aims of the mammal studies at the camp were:

- to survey the mammals in parts of the Otways using several techniques and to compile a list of the mammals so detected in the various habitats sampled;
- to carry out research (alone or in pairs) on particular species or species groups.

Survey Methods

1. Live Trapping

Each team of students used 25 Elliott folding aluminium traps (30 x 15 x 15 cm) and one Gordon wire mesh trap (30 x 15 x 15 cm) on two nights – the first in the pine/eucalypt forest east of the camp and the second in the Barramunga Nature Trail. As well, a number of traps were set on subsequent nights as part of students' individual projects. A total of 391 Elliott and 19 Gordon traps were set. They were baited with a mixture of rolled oats, honey and peanut butter, set near dusk and cleared shortly after dawn. Trapping was carried out under Fisheries and Wildlife Service permit.

2. Indirect Evidence

Diggings, scratching, burrows and scats were identified using Morrison (1981) and Triggs (1984). As well, a number of hair tubes were set in trees to detect arboreal mammals. These consist of a 10 cm section of open PVC pipe on whose upper and inner surface is attached double sided adhesive tape. Half way along the tube a well containing bait comes off the bottom, inner side. Animals enter the tube after bait and leave hairs on the tape which can be subsequently identified using Brunner and Coman (1974).

3. Direct Observation

Involves actually seeing the animals (including road kills); some were seen at night using 6V hand held spotlights.

4. Predator Scat Analysis

Carnivore droppings were collected and placed in labelled manilla envelopes; these were sealed and taken back to the laboratory. Here the scats were oven dried (90 degrees C for 24 hr) to remove helminth parasites and then washed using a 1 mm sieve. Bones and claws were identified using reference specimens and the hair identified using Brunner and Coman (1974).

Survey Results

Table 1 lists trapping data according to site. Table 2 shows the results of the predator scat analyses, while Table 3 shows all mammals detected, location and method used to detect the species.

Table One

Site	**Pine/ Eucalypt**	**Nature Trail**	**Reservoir**	**TOTAL**
Number of traps set	130	276	4	410
Bush Rat *Rattus fuscipes*	1	21	1	23
Brown Antechinus *Antechinus stuartii*	1	11	-	12
Dusky Antechinus *A. swainsonii*	2	3	-	5
Cat *Felis catus*	-	1	-	1

Table Two

Predator:	**Fox**	**Dog**	**Cat**
Prey:			
Brown Antechinus *Antechinus stuartii*	3	8	2
Dusky Antechinus *A. swainsonii*	3	-	2
Common Brushtail Possum *Trichosurus vulpecula*	2	2	-
Common Ringtail Possum *Pseudocheirus peregrinus*	1	-	-
Long-nosed Bandicoot *Perameles nasuta*	-	1	-
Bush Rat *Rattus fuscipes*	-	3	-
Broad-toothed Rat *Mastacomys fuscus*	-	-	1
European Rabbit *Oryctolagus cuniculus*	2	10	-
Dog *Canis familiaris*	-	1	-
Satin Bowerbird *Ptilonorhynchus violaceus*°	-	-	1
Crimson Rosella *Platycercus elegans*°	-	-	1
Blackbird *Turdus merula*°	1	-	-
Unknown Bird	-	1	2
Number of scats collected	16	31	11
Number which contained mammal and bird remains	12	27	9

Legend for Table 3

Sites

1. Forest north of camp, pine/eucalypt. Eucalypt section.
2. " " " " Pine section.
3. Barramunga nature trail. Start of track (away from camp) to half way down creek.
4. Barramunga nature trail – creek environs.
5. Barramunga nature trail – last half towards camp.
6. Unnamed laneway off Colac-Forrest Rd, N of camp.
7. Reservoir area just S of Forrest.
8. Teatree forest off Colac-Forrest Rd.
9. Campsite.

Techniques

N= nests and burrows.
P= predator scat analysis.
T= live trapping.
S= scats.
L= local information.
Sp= spotlighting.
O= direct observation.
D= diggings.

Table Three

Species	Location	Method
MONOTREMATA		
Tachyglossidae		
Short-beaked Echidna *Tachyglossus aculeatus*	6	D
Ornithorhynchidae		
Platypus *Ornithorhynchus anatinus*	waterways	L
MARSUPIALIA		
Phalangeridae		
Common Brushtail Possum *Trichosurus vulpecula*	3; 9	S, Sp; Sp
Pseudocheiridae		
Common Ringtail Possum *Pseudocheirus peregrinus*	3; 8	Sp; N
Peramelidae		
Long-nosed Bandicoot *Perameles nasuta*	1; 2; 7	S, D; D; D, P

Dasyuridae		
Brown Antechinus *Antechinus stuartii*	1; 3; 4; 5	T; T, O; T; T
Dusky Antechinus *A. swainsonii*	1; 4; 5	T; T; T
Tiger Quoll *Dasyurus maculatus*	Forrest	T 16yr ago (photo)
Macropodidae		
Eastern Grey Kangaroo *Macropus giganteus*	6	Sp, O
Red-necked Wallaby *M. rufogriseus*	1	L, S
Swamp Wallaby *Wallabia bicolor*	south of camp	O
RODENTIA		
Muridae		
Bush Rat *Rattus fuscipes*	1; 3; 4; 5; 7	T; T; T; T; T
Swamp Rat *R. lutreolus*	6	S, D, O
Water-rat *Hydromys chrysogaster*	waterways	L
House Mouse *Mus musculus*	9	T
LAGOMORPHA		
Leporidae		
European Rabbit *Oryctolagus cuniculus*	6; 1	O, S, D; S
CARNIVORA		
Canidae		
Fox *Vulpes vulpes*	6; widespread	O; S

Dog *Canis familaris*	wide-spread	S
Felidae		
Cat *Felis catus*	5; 6	T, S; P

Apart from the reservoir trap site (with only four traps set and 25% success rate) the nature trail proved the most successful trapping site with a capture rate of 13%. This tended to reflect a greater richness and diversity of soil and litter fauna in the nature trail area; certainly more so than in the pine forest, although the eucalypt forest adjoining the pines also had high numbers of soil/litter organisms.

Predator scat analysis (9) and indirect methods (10) yielded the most species of mammals on this survey; each technique also detected one species not found by any other technique *(Mastacomys fuscus* and *Tachyglossus aculeatus* respectively). Spotlighting and direct observation produced eight species *(Wallabia bicolor* unique) while locals told us of four other species (at least!); three of which we did not find otherwise.

Some of the important findings from the student research projects on mammals are summarized below.

Although most traps were set during the evening, 38 (including two wire mesh traps) were set during the day. One *Antechinus swainsonii* carrying six young about 0.8 mm long was trapped in the day and two *A. stuartii* were actually observed in the morning at the nature trail. Several *A. stuartii* were trapped in trees, and one *Rattus fuscipes* was trapped on a *Eucalyptus cypellocarpa* stump about one metre off the ground.

One project concentrated on the antechinus (F. Beith: "Studies of *Antechinus* species at Barramunga, Otway Ranges"). Whereas both male and female *A. stuartii* were trapped, only female *A. swainsonii* were trapped, and all bore six pouch young, varying between 0.5 and 0.8 mm length. *A. stuartii* females also had six teats. Antechinus from this study had fewer teats but were considerably heavier in total mass in comparison with antechinus of both species captured early September in Loch Valley, West Gippsland (Fisheries and Wildlife Service, unpublished data). Other measurements, however, were similar.

Another student examined the ectoparasites of the two Antechinus and of *Rattus fuscipes*. (K Eastlake: "Ectoparasites of *Antechinus stuartii, Antechinus swainsonii, Rattus fuscipes* from Barramunga, Otway Ranges, 1985.") She found there was no apparent difference in parasite loads between the sexes, although sample sizes were very low. The flea *Acanthopsylla rothschildi rothschildi* parasitised all three species, while Bush Rats also carried the flea *Macropsylla hercules*. All three mammal species carried the mite *Mesolaelaps sminthopsis* and all carried a species of *Haemolaelaps* – in *R. fuscipes* it was *H. telemachus*. Ticks were only found on *A. stuartii,* these were *Ixodes antechini* and *I. tasmani.* Lice (probably species of *Hoplopleurra)* were observed on *A. stuartii* and *R. fuscipes* while rats also bore unidentified species of mite. Perhaps the most interesting find was a pseudoscorpion on a female *A. swainsonii.*

Two students (P. Castellas, J. Dikkenberg) studied the Long-nosed Bandicoot, *Perameles nasuta*. They identified hair and bones of this marsupial in a dog scat collected from the Reservoir site and also collected one bandicoot scat from site 2. None were trapped. Three habitats were examined to compare the numbers of bandicoot diggings. Oddly the pine forest (site 2) had the largest number of diggings (35/40 m sq. quadrat), then the nature trail (mean 10, range 3 to 23) and lastly the Reservoir area (5). Importantly, thick eucalypt scrub fringed the pine site. The transect which yielded the most diggings on the nature trail had the following characteristics: low height of dominant species, little understory, open canopy, ample light, dry soil, abundant grass.

Other students' projects which have been incorporated into this report were undertaken by J. Baird and G. Abblitt (predator scat analysis) and B. Desormeaux and G. Hutchinson (arboreal mammals). Two students studied a population of Eastern Grey Kangaroo at site 6: L. Beams "A small scale survey to establish feeding habitat of *Macropus giganteus* (Eastern Grey Kangaroo)". G. Hoult "Behaviour and social interactions of the Grey Kangaroos *Macropus giganteus* in the Otway Ranges."

Discussion

A number of features of these mammal studies warrant discussion.

Antechinus spp. – nipple number

Cockburn *et al.* (1983) have found that teat number in the four Victorian species of *Antechinus* varies with habitat type. Although more young may be born than there are nipples available, the number of antechinus which can be weaned equals the number of teats. Hence teat number is an accurate index of litter size in a population, especially since it is most common for the teats to be saturated with young. Lee and Cockburn (1985) quote that 55.5% of female *A. swainsonii* carried a full complement of young in their studies at the Otways; it is interesting to note that the three animals we trapped all had six young (and six teats).

In the Otway Ranges, Cockburn *et al.* (1983) found nipple number to vary in *A. stuartii* from a high of 10 in inland foothill forests (e.g. near Gellibrand and Deans Marsh) to 6 in the forests south west of Barramunga and on Cape Otway. Barramunga is an important site since in a 5 km radius of it Cockburn *et al.* (1983) found populations with nipple numbers of 6,7,8, and 10. For *A. swainsonii,* Barramunga represents about the northern limit of populations with females having six teats. North west of Barramunga, these authors found populations with 7,8 and 9 teats.

Lee and Cockburn (1985) have hypothesized that nipple number reflects seasonality of habitat and arthropod food availability. They suggest their data support the contention that as population levels are regulated during winter when arthropod food is least available, litter size reflects the extent to which surplus resources become available during the breeding season.

Our data on nipple number are in agreement with the distribution on teat numbers in *Antechinus* spp. presented in Cockburn *et al.* (1983). Further data could be collected to test their hypothesis – for example, quantitative, seasonal comparisons of arthropod food availability in the areas inhabited by populations of *Antechinus* with different teat numbers.

Antechinus spp. – timing of reproduction and male die-off

Both *A. swainsonii* and *A. stuartii* exemplify life history strategy I (Lee *et al.*, 1982) of the carnivorous marsupials characterized by "monoestrous females, an abrupt mortality of all males at the conclusion of their first short mating period, and a mating period which is shorter than gestation, highly synchronized and predictably timed" (Lee and Cockburn, 1985, p. 87). When sympatric, *A. swainsonii* often breeds a month earlier than *A. stuartii* (Dickman, 1982). Lee and Cockburn (1985) present data from the Otways which shows male *A. swainsonii* die between 20 and 30 July. Young are born 2-3 weeks after this die-off; hence *A. swainsonii* young should be born about mid August. Our trapping data support this, as young observed in early September were a little larger than 0.5 cm long (Williams and Williams, 1982).

On the 5/9/85 one male *A. stuartii* was trapped. This is a little late for the expected male die-off in this species – but failure to trap any others (and 11 females) suggests a late August die-off time as suggested by Lee and Cockburn (1985). On 21/8/85 at the Barramunga Nature Trail I trapped eight *A. stuartii* (76 traps) of which five were male, including one that had died in the trap. I would suggest this puts the male die-off in *A. stuartii* at Barramunga between 21/8/85 and at least the 5/9/85.

Introduced predators

58 scats of foxes, dogs and cats were collected and analysed. 46 contained vertebrate remains, including some with more than one identifiable prey item; e.g. the feral cat trapped on 4/9 had a Satin Bowerbird in its stomach and *A. stuartii* remains in its rectum. A set of cat scats found near where the feral cat was trapped had feathers of a Crimson Rosella and hair and a lover jaw of the Broad-toothed Rat.

In a letter from the Colac office of the Department of Conservation, Forests and Lands, we were told that feral dogs did not constitute a sufficient problem for local landholders to warrant employment of a dogger. Our data suggest that dogs are fairly widespread in this part of the Otways and that they do prey on native species, although their principal dietary item is the introduced Rabbit.

Uncommon mammals

Sixteen years ago a local forestry officer trapped and photographed a Tiger Quoll *(Dasyurus maculatus).* Our group was presented with an enlarged photograph of the speciman by the publican of the Forrest Hotel. Local information suggests this species has declined markedly since then and the question of its continued existence in our study area is equivocal.

Mastacomys fuscus is a difficult to trap, uncommon native rodent with a patchy distribution (Wallis *et al.,* 1982). Its detection by predator scat analysis is again evidence of the usefulness of that technique as a mammal survey tool.

Conclusion

On a field trip to Barramunga, Otway Ranges, 15 mammal species were detected of which five are introduced. Future studies are planned to extend this list (e.g. by bat trapping) and to study the biology of some of the species in greater depth. The presence of *Mastacomys fuscus* and the possible existence of *Dasyurus maculatus* is encouraging.

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Australian Coral Reef Society
incorporating
The Great Barrier Reef Committee

MUSEUM OF ORIA
11 OCT 1985
NATURAL HISTORY

ANNUAL REPORT

1985

A society promoting scientific study of Australian Coral Reefs

1985 COUNCIL OF THE AUSTRALIAN CORAL REEF SOCIETY

President:	Peter Sale	University of Sydney
Past-President:	Hal Heatwole	University of New England
Vice-President:	John Veron	Australian Institute of Marine Science
Hon. Secretary:	Pat Hutchings	Australian Museum
Hon. Treasurer:	Milani Chaloupka	Queensland National Parks and Wildlife Service

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His Excellency, Sir James Ramsay
Governor of Queensland

Newsletter Editor:

Peter Doherty
Australian Environmental Studies
Griffith University
Nathan
Brisbane Qld. 4111

NOTICE OF ANNUAL GENERAL MEETING

Members are invited to attend the 1985 Annual General Meeting (No. 135) of the Australian Coral Reef Society. The meeting will be held at 5.30 p.m. on Saturday, 2nd November 1985 in the Central Lecture Theatre, James Cook University, Townsville, Queensland.

Members unable to attend this meeting may nominate a member to act as proxy. A form of proxy is enclosed.

AGENDA

1. Apologies.
2. Confirmation of minutes of the Annual General Meeting (No. 134) held on 3rd November, 1984.
3. Business arising from the Minutes.
4. Receipt of Annual Report, 1985.
5. Business arising from the Annual Report.
6. Treasurer's Report.
7. Postgraduate awards for 1986.
8. Presentation to Editors, Coral Reef Handbook.
9. Award of Honorary Life Membership.
10. Appointment of Hon. Auditor and Hon. Solicitor.
11. Membership of Council for 1986.
12. Membership of H.I.R.S. Advisory Board for 1986.
13. Address by President.
14. Other business.

MUSEUM OF VICTORIA
11 OCT 1985

Pat Hutchings
Hon. Secretary

26th September, 1985

PRESIDENT'S REPORT

The year 1985 has been another successful one for the Australian Coral Reef Society. The recently released draft zoning plan for the Central Section of the Great Barrier Reef Marine Park shows many elements of this Society's submission, demonstrating once again the effective role we play in that important arena. We have continued to address conservation issues as they arise, and late this year we made both verbal and written submissions to another governmental enquiry into the Crown of Thorns starfish.

Our somewhat better financial position - thanks to increased sales of publications and a growing membership - allowed us to fully support travel of two students (and partially a third) to the 5th International Coral Reef Congress in Tahiti in May. At the same time, we were able to increase the value of the three postgraduate student research awards offered for 1986 to $750 each.

Perhaps most important, we have increased the effectiveness with which we address our responsibilities as a scientific Society. We have now established close links with our sister organisation overseas, the International Society for Reef Studies by regular exchange of information and by my election as a representative of this Society on their governing Council. Inside Australia, we are at this moment developing effective liaison with the Council of the Australian Marine Science Association and we have now become a member organisation of the Association of Australian Scientific and Technological Societies. This Association was formed during 1985 so as to better put the views of scientists and technologists to Government. In both these ways we are making sure that the voices of Australian coral reef scientists will be heard.

In another area, it may become appropriate in the near future that we reduce our activities. When the ownership of the Heron Island Research Station was passed to the University of Queensland in 1980, we retained membership on a newly constituted Advisory Board. This Board meets about once a year but has rather little to do because the University of Queensland has been both enthusiastic and strongly committed to efficiently operating the Station. With the far greater resources at the University's command, there has been a great expansion in the facilities available at the Station and scientists can now be sure of accomplishing significant work there. Five years on, it may be that we should propose the winding up of the Advisory Board, secure in the knowledge that the Station is in good hands.

During 1985, we have provided strong and enthusiastic support to the proposal to bring the 6th International Coral Reef Symposium to Townsville in 1988. Many members of this Society will be involved in that exercise in one way or another, and some have already begun their work. More importantly, this Society has promised its support and whatever resources it can provide to ensure that the 6th Symposium is even more successful than the ones which preceded it.

In extending our range of activities in these ways it is more important than ever that we further involve the general membership. Your Council cannot do everything! We need to know of your individual interests and we welcome your offers to help - whether by standing for election to Council or by volunteering to serve as a member of one of our sub-committees concerned with park zoning, conservation, publications and so on. As 1988 approaches, the need for willing and able hands and minds can only become greater.

This year, for the first time, we have moved our Annual Conference to the north. As I write this, I am excited by what I have heard of the plans of the Conference Organising Committee. I hope many of you will attend the 1985 Conference and I am sure it will be a success. For those of you who wish to really plan ahead, aim for Brisbane in 1986, Brisbane or further south in 1987 and Townsville again in conjunction with the International Symposium in 1988. In Tahiti, we Australians kept telling each other that Australia was where the significant coral reef science was now being done. If that is really the case, then the Annual Conferences run by this Society should be the place in the world where the real action is between the quadrennial international symposia. Meet me in Townsville in November and we can find out.

Peter F Sale
PRESIDENT

September 26, 1985

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THE COUNCIL

The Council met three times during 1984/1985. Increasing emphasis is being placed on having fewer but longer Council meetings, and matters being discussed over the phone and using the mail.

MEMBERSHIP

The Society has of September, 1985, 170 financial members and 33 unfinancial members. It is anticipated that some of these unfinancial members will become financial during the Annual Conference in November. A considerable effort will be made during this Conference to ensure that all registered participants are sent membership forms.

PUBLICATIONS

1. To date, 700 copies of the Monograph on the Algae of the Great Barrier Reef by Alan Cribb have been sold; 300 unsold copies remain.

2. The 2nd edition of the Coral Reef Handbook edited by Patricia Mather and Isobel Bennett has appeared and already 900 copies have been sold. This revised edition has received very favourable reviews.

3. The proceedings of the joint Symposium with The Royal Society of Queensland, have not sold very well during the year and large numbers of unsold copies remain. Copies of "The Capricornia Section of the Great Barrier Reef: Past, Present and Future" are available from the Society for a cost of $13.50 including postage.

   All of these publications will be available for purchase at the Annual Conference.

4. The Society wishes to advise that copies of some past publications of the Great Barrier Reef Committee are available for purchase. Write to Dr John Jell, Geology Department, University of Queensland, for details.

ZONING

The Zoning Sub-Committee chaired by Dr John Veron, and including Dr Dave Williams, Mr Alistair Birtles and Dr Carden Wallace (replaced by Dr Terry Done in early 1985), has prepared the Society's submission on the zoning of the Central Section of the Great Barrier Reef Marine Park, and is about to comment on the draft of the proposed zoning plan of the Central Section recently prepared by GBRMPA. The Sub-Committee has also provided comments on the zoning of the Cairns Section of the Queensland National Marine Parks which in general are complimentary to the Great Barrier Reef Marine Parks. These submissions are being co-ordinated by the Queensland Co-ordinator Generals Department.

CONSERVATION

The Council has during the year considered the following conservation issues: the apparent damage being done to the fringing reefs off Cape Tribulation, caused by land run off, and the OK Tedi Mine in Papua New Guinea. Information on the extent of damage occurring is being sought together with requests for the control of these problems.

The Society presented a submission to the Parliamentary Sub-Committee on Conservation and the Environment on The Crown of Thorns Starfish.

ANNUAL CONFERENCE

For the first time, the Annual Conference of the Australian Coral Reef Society is being held outside Brisbane and will take place at James Cook University, Townsville on the weekend of the 2-3rd November. People wishing to participate in this meeting can still do so by contacting Dr Joe Baker, Sir George Fisher Centre, James Cook University, Townsville, 077-814817, but this should be done as soon as possible. A detailed program for this meeting is now available and will be sent under separate cover to all registered participants of the Conference.

The 1984 Annual Meeting of the Society was held in Brisbane, on November, 3rd-4th, 1984, and was very well attended. The Meeting initially addressed the problem of impact of disturbances on reefs, including the impact of Crown of Thorns starfish on the reef. After lunch, the papers considered other types of disturbances and roles which these play in the coral reef ecosystem.

On the second day, the theme of the papers was the management of coral reefs, followed by an open forum in which mainly graduate students presented their work.

During 1985 the major meeting of coral reef scientists was the 5th International Coral Reef Symposium held in Tahiti, in late May. As mentioned in the mid-year newsletter, the Society supported three graduate students- Gillian Eckert, Hugh Sweatman and Andrew Heywood - to attend the meeting. The abstracts of their papers which they gave in Tahiti were published in the mid-year newsletter, and various members of the Council heard their presentations in Tahiti, reporting that these papers were very well received.

In 1985, the following students received student research grants- Mr Anthony Fowler, Mr Owen Wright and Mr Lyndon Llewellyn - and the following abstracts of their progress reports are given below.

Mr Owen Wright - Zoology Department, La Trobe University.
The cellular mechanism of calcium deposition in corals and factors affecting this process.

Since January 1985, 8 weeks have been spent at Heron Island Research Station. During this time, emphasis has been placed on investigating calcium transport across isolated coral tissue, using radioactive isotopes. These experiments along with electrical measurements suggests that the mesogloea layer presents a significant barrier to calcium, sodium and water. Ultrastructural investigations and growth experiments are continuing.

Lyndon Llewellyn - Zoology Department, University of Queensland
Studies on the toxicity in crabs, particularly members of the family Xanthidae occurring in southern Queensland and the Great Barrier Reef.

Several species of corals were found to be toxic, and a new toxin was found to occur in coral reef crabs. This toxin which is located within the gut has virtually been isolated, and detailed investigations on the chemistry and pharmocology of this toxin are about to occur. The elucidation of the location of toxin production, is the first real example of a direct relationship between diet and the occurrence of toxins in crabs.

Tony Fowler - School of Biological Sciences, University of Sydney.
Demography and other aspects of ecology of some chaetodontid fishes at One Tree Reef.

The project has been under way since February 1984. The work done prior to my first A.C.R.S. proposal was mainly concerned with developing research techniques suitable for chaetodontid species. These techniques included sampling, capturing and marking, and performing home-range studies. Laboratory work had also been initiated for developing an aging technique using otoliths. Since this time considerable progress has been made in a number of areas where the above techniques have been applied.

Since November, 1984 a sampling regime has been implemented to document distribution and abundance of all species of chaetodonts across One Tree Reef. Censuses were done in November 1984, January 1985, April 1985 and August 1985, to try and document spatial and temporal variation for each species.

The size structure for the three species, Chaetodont rainfordi, C. plebeius and Chelmon rostratus has been documented. Each individual fish occurring within the transects was classified into one of six size classes. Thus the census program supplied information on the variability of size-class densities for three species over the small and relatively short-term spatial and temporal scales.

Estimates of recruitment have been obtained for these three species at several spatial scales. One experiment designed to test the availability of potential recruits at a number of localities across the lagoon, was done over the 1984-1985 Summer. This study plus a number of others using permanent transects and recruitment traps are planned for the 1985-1986 recruitment season.

Some members of the three species living within the lagoon of One Tree Reef have been caught, measured, re-marked and released on a number of successive visits to the study reef. Preliminary results at this stage, suggest that growth is seasonal for two of the target species. The early growth of recruits occurring in different microhabitats will also be monitored. This will determine whether or not early growth is dependent on the local environment.

Some permanent study areas have been recently established in order to monitor how size-class distributions of each species change with time. These data, in association with growth rate data, should be able to be used to give estimates of size-class mortality for each species in these various habitats.

AUSTRALIAN CORAL REEF SOCIETY

STATEMENT BY PERSON IN CHARGE OF THE PREPARATION OF THE ACCOUNTS

I. Milani Chaloupka, being the person in charge of the preparation of the accompanying accounts of the Australian Coral Reef Society being Balance Sheet and Income and Expenditure Account for the year ended 30th June, 1985 state that to the best of my knowledge and belief such accounts give a true and fair view of the state of affairs of the Society as at 30th June, 1985 and of its results for the year then ended.

Dated at Brisbane this 22nd day of July, 1985.

....

AUDITORS' REPORT

We have audited the accounts of the society in accordance with Australian Auditing Standards. It is not practicable for the society to establish accounting controls over all sources of income prior to its receipt and accordingly it is not possible for our examination to include audit procedures to extend beyond the amounts of receipts recorded in the accounting records. All monies recorded as receipts have been properly accounted for.

Subject to the foregoing the accounts are properly drawn up in accordance with the provisions of the Companies (Queensland) Code and so as to give a true and fair view of the state of affairs of the society as at 30th June, 1985 and the result of the society for the year ended on that date and are in accordance with Australian Accounting Standards.

Peat Marwick Mitchell & Co

PEAT, MARWICK, MITCHELL & CO.
CHARTERED ACCOUNTANTS

N.D. SARTOR
PARTNER

Brisbane

22nd July, 1985

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AUSTRALIAN CORAL REEF SOCIETY

BALANCE SHEET AS AT 30TH JUNE, 1985

GENERAL FUND	1984 $	1985 $
Balance brought forward	17,315	25,906
Transfer from Second Symposium account	5,869	-
Transfer from Consultancy account	154	-
Surplus (deficit) for year	2,568	1,994
	$25,906	$27,900

CURRENT ASSETS		
Accounts receivable	-	119
Cash Management Trust	10,000	-
Commonwealth Savings Investment Account	2,786	3,064
Commonwealth Savings Bank	9,860	10,015
Stock of handbooks at cost	3,260	14,702
	$25,906	$27,900

The accompanying notes form part of these accounts.

AUSTRALIAN CORAL REEF SOCIETY

INCOME AND EXPENDITURE ACCOUNT
FOR YEAR ENDED 30TH JUNE, 1985

	1984 $	1985 $
INCOME		
Subscriptions	2,428	5,108
Publication sales	5,005	5,635
Interest - Commonwealth Bank	575	713
- Australian Savings Bonds	172	-
- Cash Management Trust	1,108	672
Sundry	-	63
Donations	-	1,500
	9,288	13,691
EXPENDITURE		
Conference expenses	160	254
Cost of handbooks sold	1,750	2,698
Postage, telephone and telegrams	517	554
Printing, stationery and photocopying	1,121	1,027
Student research grants	1,500	3,809
Sundry expenses	92	290
Travel	1,580	3,065
	6,720	11,697
SURPLUS (DEFICIT) TO GENERAL FUND	$2,568	$1,994

The accompanying notes form part of these accounts.

AUSTRALIAN CORAL REEF SOCIETY

NOTES TO AND FORMING PART OF THE ACCOUNTS FOR YEAR ENDED 30TH JUNE, 1985

1. ACCOUNTING PRINCIPLES

The accounts have been prepared on the basis of historical cost and are in accord with the accounting standards required by the Australian accounting bodies.

2. CASH BASIS ACCOUNTING

The Society adopts the cash basis method of accounting whereby revenue is recognised when received and expenses are incurred when paid.

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